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ABSTRACT

As part of the series of student materials developed by the Environmental Education Project at Florida State University, this volume contains three diverse instructional units integrating values and environmental education. Designed for secondary students, each unit contains lesson plans, objectives, and student readings. Unit 1 provides eight student activities focusing on the effect of ancient Chinese values and modern philosophy on Chinese life-styles and attitudes toward the environment. Unit 2 lists the components of student "messing about" kits which contain familiar objects such as pictures, seeds, booklets, and cans as well as instructional media. Students examine the objects in the kit in order to arrive at greater environmental awareness and clarify their values about the life-styles necessary to maintain a balanced relationship with nature. Unit 3 uses poetry and personal reflections about trees to involve students in man's disposition toward nature and others. (Author/DE)

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FINAL REPORT

Project No. R021079

Grant No. OEG-0-72-5145

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THE ETHICS OF ENVIRONMENTAL CONCERN:
A RATIONALE AND PROTOTYPE MATERIALS FOR ENVIRONMENTAL EDUCATION WITHIN THE HUMANISTIC TRADITION

Volume V of Five Volumes

September 30, 1973

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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Office of Environmental Education

A NOTE TO READERS OF THE FINAL REPORT

This volume contains three diverse units. Each unit in its own way is a response to different conceptions of value development, teaching, and environmental education. Each unit reflects the Project staff's aspiration to find units that would prove effective in environmental education (stressing values) and would prove acceptable to teachers who control the selection of instructional methods and materials.

The three units are entitled:

1) *China: Beliefs and Using the Good Earth*
2) *Messing About for Environmental Education*
3) *Tree*

The China unit, with its lesson plans, objectives, and readings, is a more usual social studies and environmental education inquiry unit for groups of students. For middle school and high school students, it teaches certain generalizations about the connections between beliefs, values, and human behavior. For teachers, this unit fits within the norms of inquiry teaching which many were learning as part of their experience in social studies.

The Messing About unit, based upon David Hawkins' conception of student structured learning, did not fit within the norms for teachers or schools. As examined in the rationale for the unit, this approach maximumizes student self-directed learning. Teachers who were asked to use these materials resisted. Those who tried them soon discovered that their students were conditioned to a different norm and the adjustments were painful for teacher and student.

The third unit, Tree, employs poetry and personal reflection to involve students in a three fold distinction in man's disposition toward nature and toward others.

The China unit was most acceptable to classroom social studies teachers. Teachers reported success in using the unit as an integral part of geography, world cultures, and world history courses. They appreciated the fact that the unit "fit" so well into the course or study--so that environmental education was not something "tacked on" to the main thrust of their courses. The unit did not depend upon a new teaching style, new allocation of time, or new deployment of students.

The Messing About unit was of limited success. Teachers and students were not used to the approach, the time and deployment patterns, etc. It simply required too much change too rapidly in an area of the curriculum (environmental education) that was new to them in the first place.

The Tree unit became very popular in adult education settings and for teachers in their own reading. However, teachers (mostly social studies teachers in our experience) were perplexed about using TREE in the classroom. They observed that it would "take too much time;" that they "didn't know what to test for;" that they didn't know what questions to ask; etc. Basically, the Tree unit (like the Messing About unit) was too far from the norm for the teachers involved and too far from the traditional structure of their courses. Many teachers used the material for "extra credit" or for extra reading for more able students.

School systems and teachers electing to use some of these materials will probably find the China unit most readily acceptable; the Messing About unit the most exciting; and the Tree unit the most challenging.

CHINA: BELIEFS AND USING THE GOOD EARTH

Prepared By:

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A NOTE TO TEACHERS

Most often teachers see environmental education as a topic for science classes or for social studies classes dealing with social issues and problems. However, environmental education is a concern which may be taught in many curricula settings.

This unit was designed for world cultures and world geography courses, especially in classes where students have low or diverse reading abilities. Teachers may find that it can be used in a variety of settings -- and with a variety of grade levels.

* * *

The unit is prepared in one volume, with lesson plans and information for teachers on yellow paper, and with pages for students mimeographed on white paper. Before beginning this unit with a class, teachers should:

1. ditto class sets of the white pages, and
2. arrange to borrow the film for Lesson #8.
3. Optional: filmstrips might be used in Lesson #7.

TABLE OF CONTENTS

Lesson #1 "Discover the Chinese Earth"

-Introduction to China through a discovery exercise using several maps.
-Outcome: Develop a generalization.

Lesson #2 "News Interview in China"

-Role Playing exercise that will give students a quick look at the "Old" and the "New" China. They begin to apply generalization #1 to "Old" and "New" China.

Lesson #3 "Confucian Beliefs"

-Information sheet and Reading are used in conjunction with generalization #2 (about men's beliefs and acts according to beliefs). This lesson is used to give the student practice with generalization #2.

Lesson #4 "Taoist Beliefs"

-Information sheet and Reading used in conjunction with generalization #2 (about men's beliefs and acts according to beliefs). This lesson is used to give the student practice with generalization #2.

Lesson #5 "Journey Along a Chinese Road"

-This lesson deals with both generalizations and gives students the chance to test their ability to apply both of these generalizations. The story is about "Old China" and, therefore, students look for land use and how beliefs affected this kind of use.

Lesson #6 "Beliefs of Chairman Mao"

-This lesson acts as an introduction to the new beliefs that "New China" adopted. How did these beliefs affect land use, etc.? Two reading selections are used and students apply generalizations #1 and #2 to these readings.

Lesson #7 "The Commune and the Chinese Earth"

-This lesson gives students a chance to apply both generalizations to a situation in "New China." Students are also expected to compare the "New" and "Old" beliefs and how they affected land use.

Lesson #8 "Back to the U.S.A. and The River"

-This lesson asks the students to apply the generalizations to a situation in their own society.

Lesson #1 Introduction: Discover the Chinese Earth

Objectives:

Given* maps depicting China's climatic regions and features, major crops and major population concentrations and given class discussion of this data, students will develop the following generalization: "If an area has a small amount of arable land relative to a large population, then the inhabitants must find a way to maximize production if they are to survive."

Procedure:

1. Introduce the unit by telling students that they will be studying about the Chinese Earth. You may want to explain that you can find out about people from the way they use their land. Perhaps several students could give some examples of this relationship between land and people.

2. Divide students into groups of four or five. Give each group a set of maps.

3. Ask each group to study these maps and try to come up with some facts about the amount of arable land (Give students definition: land that is fit for growing crops on), the population, the growing seasons, the climactic conditions, etc.

4. After the students have gathered the facts, ask them to develop a generalization or explanation that shows the relationship between the amount of arable land in China and the population dependent upon that land. Students need to include the outcome of this relationship in their generalization also. (If....arable land and .... population then what is the outcome?).

5. After each group has gathered fact and developed a generalization, have the students share their information.

6. After a short discussion, give the entire class the following generalization and ask them to keep it in their notebook for later use: If an area has a small amount of arable land relative to a large population, then the inhabitants must find a way to maximize production if they are to survive.

*All of the maps are from Keith Buchanan, The Chinese People and the Chinese Earth (London: G. Bell and Sons, Limited, 1966).

Lesson #2 News Interview in China

Objectives:

Given a role playing exercise exemplifying the "Old" and the "New" China, students will place six events that brought about the change from "Old" to "New" China in sequential order.

Given a role playing exercise exemplifying the "Old" and the "New" China and given the generalization ("If an area has a small amount of arable land and a large population, then the inhabitants must find a way to maximize production if they are to survive") students will list at least three characteristics of "Old China" (at least one should describe the people's relation to the land).

Given a role playing exercise exemplifying the "Old" and the "New" China and given the generalization (If an area has a small amount of arable land and a large population,then the inhabitants must find a way to maximize production if they are to survive) students will list at least three characteristics of "New China" (at least one should describe the people's relation to the land).

Procedure:

1. Ask students to review the generalization they had worked with in Lesson #1 ("If an area has a small amount of arable land and a large population, then the inhabitants must find a way to maximize production if they are to survive.")

2. Tell students to keep this generalization in mind as they participate in a role playing exercise.

3. Ask for volunteers to role play the following characters:

   Jack Scott - Reporter
   Kathy Wilson - Reporter
   Young Woman - field worker
   Teng - work team leader
   Dr. Chou - expert on Chinese history
   Teng's father - field worker

4. Hand out role-playing exercise sheets to each student so that those who are not participating can follow along. Ask students to be looking for characteristics of both the "New China" of Teng, the work team leader, and the "Old China" of Teng's father.

5. Have students act out the role playing exercise.

6. After students have completed the exercise, hand out the student activity sheet. The class can go over the sheet together or each student can work on his own.

7. Go over the activity sheets with students and have them share their answers with other class members.

EYEWITNESS SPECIAL REPORT: CHINA

*Adapted from Search (Scholastic Magazines, Inc.), February 5, 1973, pp. 5-8.

STUDENT ACTIVITY SHEET

1. What happened and when did it happen? Read this list and think about
   a. China ruled by people from many other lands
   b. World War II
   c. Rich landlords owned the land and the peasants worked the land
   d. Communists fought against the Chinese Nationalist Government
   e. Communes are set up to grow crops
   f. Communists drove the Nationalists out of China (1949)

Put the events in order. Begin with the most recent event and place it next to #1. The oldest event will be next to #6.

1.
2.
3.
4.
5.
6.

2. List three characteristics of the "Old China" that Teng's father described. Be sure to list at least one characteristic that describes the people's relation to their land.

3. List three characteristics of "New China". Be sure to list at least one characteristic that describes the people's relation to their land.

Lesson #3 Confucian Beliefs

Objectives:

Given an information sheet and a reading about Confucianism and given the generalization: "All men have certain beliefs about who they are and they act out these beliefs toward the living things around them (people, land, etc.)," students will list at least three examples of the relationship between Confucianism and land use in "Old China."

Procedure:

1. Tell the students that on the first day of the unit you had stated that they would be looking at the relationship between the Chinese people and their earth. Ask the students to give examples of this relationship that they have seen thus far.

2. Give the students the following generalization: "All men have certain beliefs about who they are and they act out these beliefs toward the living things around them (people, land, etc.)"

3. Ask students to think about how this generalization might explain the relationship that the Chinese people have had with their land. Give out the Information Sheet on Confucianism and tell the students to read it silently.

4. After students have finished reading the Information Sheet, ask them to discuss how the beliefs of Confucianism might have caused the Chinese people to act towards other people and towards their earth.

5. After a brief discussion, hand out the Reading and ask students to read it carefully. They should look for examples of how Confucian beliefs had affected the way Wang Mang related to other people and to the land.

6. Discussion should follow, allowing students to apply the generalization to both the Information Sheet and the Reading. Students should list and keep in their notes at least three examples of the relationship between Confucianism and land use in "Old China."

Information Sheet: Confucianism Lesson #3

The preachings of Confucius are over 2000 years old, but they strongly influenced traditional China until 1949, and are still upheld by many Chinese in modern China.

Essentially Confucius believed that everyone could not be treated equal because people had varying abilities such as varying abilities to learn and use intellectual thought and varying physical capabilities. He also felt that social organization required a division of labor and that different types of jobs required different types of people to do them. He believed that the only way to solve problems and maintain social order was to make social positions distinct and definite, and to distribute things according to status.

Confucius felt that there were basically two types of work: mental (teachers, doctors) and physical (craftsmen, farmers). He believed that mental labor was linked with government so that only educated families would be the rulers.

Yet there were more than two classes in China. Status also depended upon wealth and occupation. An example would be that a landowner was higher on the social ladder than a peasant although they both might be classified as farmers and therefore commoners. In the commoners role, the top was held by the scholars followed by the farmers, artisans, and merchants.

According to Confucian theory, achievement should be the criteria for rank or position in the social and ruling stratas. Confucius did allow some mobility in the social order by opening education to the commoner because he felt that the mind was capable of perfection, so anyone with education and intelligence could rule. Thus it was that a commoner could move into the ruling sections of the population. Later, another road would be through the accumulation of wealth to buy one's way into education. In reality, however, the economy could not support public education, so low class citizenry usually failed to become educated or to move out of the peasant status.

Confucianism was not a religion but a social order in which religion intermingled* itself. When Confucius lived, there was much turmoil in China. Some of his writings show that he attributed this to Heaven. Another aspect of his doctrine being incorporated* with religion is his explanation of sacrifice as more than a way of life for man.

Sacrifice is a central function of ancestor worship. Confucius wanted to promote ancestor worship to cultivate kinship values such as filial piety*, family loyalty, and the continuity of the family lineage. The major function of ancestor worship is to bring together and strengthen the kinship group.

*intermingled - to join with and get mixed into many areas
*incorporated - joined to as a necessary part of the whole item
*filial piety - son and daughter honor and care for their parents

Just as the theories of ancestor worship sprang from Confucian values, so did the state cult of Heaven worship (state belief in it being next to Heaven and drawing its power from there) come from Confucian moral and social connotations of political power. These theories were rarely seriously challenged because the government, unlike America, controlled religion and found Confucian belief to best fit their needs. Also, religion in China has always been weakly organized because if it could not be used as a tool for the government, it was destroyed and/or forced underground. This led to each religious group failing to establish a ruling body to direct its operations. Thus each church or group of churches tended to practice its own way and not be united in a common belief or practice.

Reading: Lesson #3

Edict on Land Reform

*Sources of Chinese Tradition Volume I (William T. deBary, editor, (New York: Columbia University Press, 1966), p. 224, 225.

Additional Reading - Lesson #3
(This is an additional reading for students who are particularly interested in Confucianism.)

The Well-Field System

*William T. deBary, editor, Sources of the Chinese Tradition (New York: Columbia University Press, 1966), p.233.

Lesson #4 Taoist Beliefs

Objectives:

Given an information sheet and several readings about Taoism and given the generalization: "All men have certain beliefs about who they are and they act out these beliefs toward the living things around them (people, land, etc.)," students will list at least three examples of the relationship between Taoism and land use in "Old China."

Procedure:

1. Ask for a student to review the generalization that had been given the previous lesson. Ask for a quick review of how the generalization applied to Confucianism.

2. Tell students that in this lesson they will take a look at the beliefs of Taoism. They will go through the same procedure they had been through the day before.

3. Hand out Information Sheets and ask students to read them silently.

4. After students have finished reading the information sheets, ask them to discuss how the beliefs of Taoism might have caused the Chinese people to act towards other people and towards their earth.

5. After a brief discussion, hand out the Reading Sheet and ask students to read it carefully. They should look for examples of how Taoism beliefs had affected the people's relation to other people and to the land.

6. Discussion should follow, allowing students to apply the generalization to both the information sheet and readings. Students should list and keep in their notes at least three examples of the relationship between Taoism and land use in "Old China."

Information Sheet: Taoism

*Adapted from Richard E. Sherrell, editor, Ecology Crisis and New Vision (Richmond: John Knox Press, 1971), pp. 71, 72.

Reading: Lesson #4

- A -

- B -

*Reprinted from Chuang Tzu: Basic Writings, Burton Watson, Translator, (New York: The Columbia University Press, 1964), pp. 29-30, 45, 59-62, 46-47.

**Ibid.

Lesson #5 Journey Along A Chinese Road

Objectives:

Given a short story describing the use of land in "Old China" and given the following generalizations: "If an area has a small amount of arable land a large population, then the inhabitants must find a way to maximize production if they are to survive" and "All men have certain beliefs about who they are and they act out these beliefs toward the living things around them (people, land, etc.)," students will list at least three explanations for the form of land use described in the story.

Given a short story describing the use of land in "Old China" and given the following generalizations: "If an area has a small amount of arable land and a large population, then the inhabitants must find a way to maximize production if they are to survive" and "All men have certain beliefs about who they are and they act out these beliefs toward the living things around them (people, land, etc.), students will list at least at least three alternative forms of land use the people of "Old China" could have implemented.

Procedure:

1. Hand out a copy of the story to each student. Tell the students that the story is told by an old man who is traveling to Peking in the 1930s.

2. Ask students to place the trip in their time line from Lesson One. Ask them what they might expect China to be like at this time.

3. Ask students to keep in mind the following questions as they read the selection:

   a) Did the people attempt to maximize production?
   b) Did Confucian or Taoist beliefs affect how the people used their land? How they interacted with other people?
   c) What are some other ways that the people of "Old China" could have used to grow more crops and enjoy a better life? Would these other ways agree with the beliefs the people held about themselves and the living things around them?

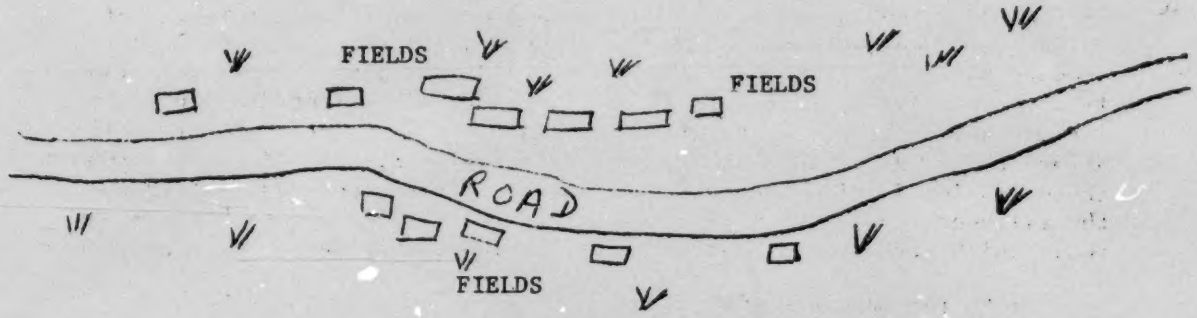
4. Ask students to read the selection and answer the questions at the end of the reading.

5. Have students review the two generalizations they have been working with and have them discuss their answers to the questions on the reading sheet. Be certain that students not only answer the question, but also relate the story to the generalizations.

A Journey Along a Chinese Road*

I had never been to Peking and decided I would go. As I walked down the road, I noticed that things had only slightly changed since the 1912 Revolution.

I was passing through one of the typical types of villages to be found in China. It was poor as most villages are. It was mainly made up of a few straw and mud houses scattered randomly along a street and called a linear-type village. It looked like the map below.



□ = Houses
Ψ = Crops in the fields

The village is surrounded by its fields. There are few cattle to be seen as most families cannot afford to keep them. Most livestock are raised only for and by the wealthy and foreigners. For this reason, most people of China are vegetarians because they cannot afford to be otherwise.

As I passed by a house, I could see a mother cooking over a small earthen-made stove. On the stove was a pot with water into which she was dropping vegetables.

For thousands of years now, most people have lived in the river basins where the land is less sloping than the mountains and the soil is richer. However, the forests had been cleared away hundreds of years ago so that there is little wood to be found. For this reason, the woman cooking her meal, as other women of northern and eastern China had to do, is using the grazing sod as the source for her fuel instead of allowing cattle to graze on it.

As I continued down the road, another house had a group of children sitting around an old man who was telling them stories. As I looked around, I could see people preparing for the Chinese New Year and was glad that I would be in Peking to see the parades which would have men dressed as a long dragon.

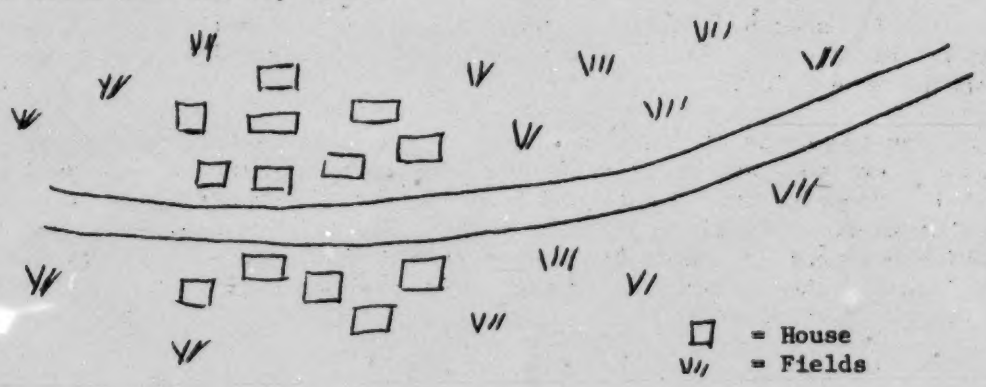
*Written by Carl J. Duncan

As I left the village, I could see how close this village was to the next one down the road. All the land in between and around the two villages had been turned into farm land. No land was wasted. Yet, I thought to myself that if these were typical villages, most of the land was owned by the peasants, but no peasant owned enough land to be able to make a living from it. Neither could he raise enough to feed his family and pay his bills. Here it is in the 1930s and figures show that 50% of agriculture is owned by peasants, but all are such small farms that they cannot support the people who own them.

I could see some reasons for the failures of these farmers. Almost 80% of the people lived on the land and not in the cities. This meant that farms were too small to be managed as an economic business because too many people were being paid to do the work. There was also little money available for the small farmer to use scientific methods of farming such as chemical fertilizers. In fact, most farmers could only afford their animal and human wastes as fertilizer. To add to the problem, there was ineffective use of irrigation and river flood control because the villagers would not work together. Farmers also used techniques and tools which were over a hundred years old instead of new farming practices.

Take for instance that man over there using a bamboo rake and stone tools to cover his seeds instead of a planting machine. Or the man riding on a board with pegs facing the ground in it to turn the soil. This old, primitive cultivator drawn by a water buffalo would never be sufficient to manage a large size farm.

Here I am at the next village already. It is also typical as far as the houses look but is different in its arrangement. There is no orderly plan to its layout which is why it is called a cluster village. It looks like the map below.



Looking around I can see a tea shop attached to that house over there. I believe I'll stop.

"I'll have a cup of tea, please."

The conversation of these men is typical of the plight of many farmers.

"I could make some money from my land if only I did not have so many operating costs. I have to borrow money to buy my seeds, then I have to plant it, raise it, and harvest it. On top of that, I have to pay for its shipment to market. All I have to live on is the money I make on the sale of my crop after I pay everything else off."

An old man with a white beard added, "It has always been the same for me. What makes it worse is that everyone's crop is harvested at the same time. This puts so much food up for sale at once that the price on the market is very low. If only I could afford to store it for a few months, then I could sell it when no one else is selling so that I would get a higher price for my crop. But I cannot afford to save because I must pay my bills now. So I have to sell at any price in order to live."

"My problem is that I am a tenant farmer. I rent my land and must pay my landlord from my sale of crops. Plus, any improvements I make in the land, I must pay for and do the work myself."

"If we could only work together with our neighboring villages, we might be able to cut costs through mutual cooperation and by cutting the costs of duplication of effort, particularly in the area of land disputes and river control. But we have not been able to do this for centuries, so why expect it now?"

That is the same talk I hear everywhere. But, if I am to make Peking tonight, I had better be on my way.

Lesson #6 Beliefs of Chairman Mao

Objective:

Given reading selections #1 and #2 and given the following generalizations: "If an area has a small amount of arable land and a large population, then the inhabitants must find a way to maximize production if they are to survive;" and "All men have certain beliefs about who they are and they act out these beliefs towards the living things around them (people, land, etc.)", students will write a short paragraph explaining why and how the Chinese people changed their relationship with the earth.

Procedure:

1. Tell students that they will now be learning about the "New China" that was mentioned in the second lesson of the unit.

2. Ask students to look at their list of events from lesson two and ask them to place approximately when "New China" began. (Communists drove Nationalists out of China 1949).

3. Tell students that in the preceding lesson (Lesson #5) they had had a chance to list some other ways that the people of "Old China" could have used their land. Now the students will have a chance to see what the Chinese decided to do.

4. Hand out the two readings and ask students to keep the following questions in mind:

   a) How have the beliefs of Chairman Mao affected the way the people of the "New China" treat their land, other people, and themselves?
   b) How have the Chinese people attempted to maximize production?
   c) How are the beliefs of Chairman Mao different from those of "Old China" (Confucianism and Taoism)? Have they affected the people of "New China"?

5. After students have read the selection, have the class discuss the questions. Also ask students to relate the readings directly to the two generalizations.

6. Finally, after a thorough discussion, ask students to write a short paragraph explaining why and how the Chinese people changed their relationship with their earth.

Reading Sheet - Lesson #6

1.* SPIRITUAL ATOM-BOMB AIDS HARVEST

....In 1968 the Tachai brigade experienced a severe drought and hailstorm. Hailstones as big as eggs fell on the cornfields, piling up two to three inches. Corn stems were broken and rice seedlings crushed; part of the crop was uprooted. Potatoes and beans were smashed completely. But no matter how destructive the hailstorm, it did not destroy the poor and lower-middle peasants who were armed with Mao Tse-tung's thought. They said confidently: "We run into natural calamities every year and we fight them one by one. We are sure of our victory over natural calamities this year!

"We used our hands to save the battered corn and rice. Man and woman, young and old, we worked day and night and everyone did the work of two men. Our efforts proved that a bad thing can lead to good results after all. Through our struggles we turned a calamity-stricken year into one of bumper harvests."

The poor and lower-middle peasants said with animation: "Bumper harvests do not come from heaven but from earth. They come from Mao Tze-tung's thought'. 'Natural calamities are like paper tigers. If you are afraid of them, they will conquer you; if you fight them, you will find them not so powerful'. Equipped with Mao Tse-tung's thought, our strength is inexhaustible and we can be most resourceful. Even though we work day in and day out, we do not feel tired or complain in times of hardship. It is through these disasters that our cadres and the broad masses, particularly the younger generation, were tested and educated.

"Chairman Mao has taught us: 'We advocate self-reliance.' With the spirit of hard struggle, we, the poor and lower-middle peasants, displayed the heroism of 'Dare to make the sun and moon shine in new skies.'" Thus flooded lands were turned into fertile fields, barren mountains became forests, river water was pumped to the highlands, and grain production greatly increased. Commune members had new housing and the old Tachai became a new socialist production brigade.

Comrade Lin Piao said: "Once Mao Tse-tung's thought is grasped by the broad masses, it becomes an inexhaustible source of strength and a spiritual atom bomb of infinite power." The Tachai peasants have attached first importance to the movement of creative study and application of Mao Tse-tung's thought. That is why we have revolutionized our thinking and acquired the correct idea of working the land for the sake of the revolution and in the interests of the people . . .

Peking Radio, 2 January, 1969

*George Urban, editor, The Miracles of Chairman Mao (London: Tom Stacey, Ltd., 1971), pp. 43-44.

Reading Sheet - Lesson #6

2.* BIRTH RATE IS CUT IN NEW SOCIETY by Tillman Durdin

*The New York Times Report from Red China (New York: New York Times Company, 1971), pp. 191-193.

Lesson #7 The Commune and The Chinese Earth

Objective:

Given information about the communal plan of production and given the following generalizations: "If an area has a small amount of arable land and a large population, then the inhabitants must find a way to maximize production if they are to survive;" and "All men have certain beliefs about who they are and they act out these beliefs toward the living things around them (people, land, etc.)", students will write a short paragraph describing how and why the Chinese people have adopted the communal plan of production.

Procedure:

1. Give each student (or group of students) a set of information sheets.

2. Ask students to study the materials and look for the answers to the following questions:

   a) How are the beliefs of Chairman Mao different from a Confucianist? a Taoist?
   b) Would a Confucianist or Taoist agree with the eight point plan of production? Why or why not?
   c) Why have the people of "New China" adopted the communal life? (Be sure their answers have 2 parts. One dealing with need - generalization #1 and one dealing with beliefs - generalization #2).

3. After students have studied the materials and answered the questions, allow the class to discuss the material together.

4. Perhaps it would be helpful if you wrote the two generalizations and the questions on the board. Students could be sure to apply the materials to the direct generalizations and questions at hand.

5. After a thorough discussion, ask students to write a brief paragraph describing how and why the Chinese poeple have adopted the communal plan of production. Tell students to be sure to include the information they gained through class discussion of the genrralizations and questions.

*Map and Pictorial Chart are from Keith Buchanan, The Chinese People and the Chinese Earth (London: G. Bell and Sons, Ltd., 1966).

For this lesson a set of three filmstrips is useful to complement the materials provided: INSIDE CHINA, Hubbard Filmstrips, P.O. Box 105, Northbrook, Illinois 60062. ($12.00).

CHINA TODAY

Most of China is in the subtropical zone which is very good for agriculture. The film shows the highland plateau of the west and the lowland plains in the east with their steppes, loess deposits, forests, mountains and deserts. Points of historical interest include the Great Wall, Graves of the Ming Dynasty, the Yangste and Yellow Rivers, Shanghai, Peking and a town in inner Mongolia. To show how present-day China lives, the filmstrip includes the main industrial and agricultural activities.

PEKING

Peking, the Capital of the People's Republic of China, is consequently one of the major political, cultural and trade centers of China. The filmstrip reflects this fact by showing the Palace of Congress, the Palace of Culture,for National Minorities, Chang An Boulevard (the main street that traverses the entire city), a street scene, street demonstration, wall newspapers, day care centers.

FARM COMMUNE

About 70% of China's people live in over 74,000 communes. This form of farm organization was adopted in 1958, succeeding the earlier farm cooperatives. An average commune has about 2,000 families. The filmstrip shows how a commune operates, the types of produce raised and production and harvesting techniques, as well as work and leisure-time activities.

Student Information Sheet - Lesson #7

1.* Good Early Rice Harvest

After overcoming the spring cold and drought, commune members and cadres in southern China reaped a rich, early rice harvest.

Now that harvesting had been completed, total output showed an increase over that of last year. The major rice-producing provinces of Szechuan, Anhwei, Yunnan and Kweichow reported a 10 per cent increase, and the output in Kwang-tung, Kwangsi, Hunan, Chekiang, Kiangsu, Shanghai and Fukien also exceeded that of 1971. In many counties, communes and production brigades, the per-mu yield was over 800 jin.

Conscientiously implementing the policy of "taking agriculture as the foundation," Party organizations at various levels in the early rice growing areas strengthened their leadership in the mass movement to learn from Shansi Province's Tachai Brigade, a pace-setter in China's agriculture. The policies of "from each according to his ability, to each according to his work" and "equal pay for equal work without distinction of sex" were carried out in all places. This further stimulated the socialist enthusiasm of the commune members.

Thanks to the implementation of the "Eight-Point Charter" for agriculture - namely, soil (deep ploughing, soil improvement, general survey of soil and land planning), fertilizer (rational application of fertilizer), water (building water conservancy works and rational use of water), seeds (popularization of good strains), close planting (rational close planting), plant protection (plant protection, the prevention and elimination of plant diseases and pests), management (field management), and tools (innovation of farm implements) - and scientific farming, the acreage sown to good seed strains was expanded and the work of rational close planting was done in a better way than last year.

Commune members are now actively delivering their public grain and selling their surplus rice to the state. At the same time they are busy tending the late rice and other crops in an effort to get another good harvest.

*Peking Review, September 8, 1972.

LIFE IN CHINA'S COUNTRYSIDE

*Adapted from How People Live in China.

Lesson #8 Back to the U.S.A. and The River*

Objective:

Given a presentation of the film "River" and given the following generalizations: "If an area has a small amount of arable land and a large population, then the inhabitants must find a way to maximize production if they are to survive;" and "All men have certain beliefs about who they are and they act out these beliefs towards the living things around them (people, land, etc.)," students will write a short paragraph explaining the relationship between the two generalizations and the film.

Procedure:

1. Ask for a student to review the two generalizations in a class discussion.

2. Tell students that they will be seeing a film about the Mississippi River. Ask them to keep the two generalizations in mind as they view the film.

3. After the film is over, allow students to discuss the relationship between the generalizations and the film. You might want to ask students some of the following questions:

   a) How did you feel when the narrator stated "Poor land makes poor people, poor people make poor land?"
   b) What has the Mississippi meant to us? What has it cost us?
   c) The narrator stated that "We built 100 cities and 1000 towns, but at what a cost." Why do you think Americans agreed to pay this cost?
   d) The narrator stated "We had the power to take the valley apart and now we have the power to put it back together again." Why do you think we believe we can always put things back together?
   e) How much longer can we as Americans expect to take things apart (like the forests in the film) and then move on to another place?
   f) What do our actions towards the Mississippi tell you about our beliefs?

*"River". 32 minutes. Government-made 1939. Black and white. In nine sequences the film traces life in the Valley of the Mississippi River during the last 150 years: the early days of cotton culture; the lumbering operations in the North; and agriculture in the valley. The consequences of share-cropping, soil exhaustion, unchecked erosion, and floods are shown. Emphasizes that "....we have taken the valley apart and we can put it together again." Can be obtained from The Florida State University Media Center, Florida State University, Tallahassee, Florida 323-6.

4. After a thorough discussion, ask students to write a short paragraph explaining the relationship between the two generalizations and the film. Tell students to be sure to include information they gained from the discussion of the generalizations and the questions.

MESSING ABOUT FOR ENVIRONMENTAL EDUCATION

Prepared by

Rodney F. Allen
Daniel M. Ulrich
Robert M. Peterson

A GUIDE FOR THE CLASSROOM USE OF TWO KITS: "CITY" AND "NATURE"

A NOTE TO CLASSROOM TEACHERS

For many, the stuff of this guide is new. It's new in that the approach to environmental education dwells upon the search for meaning and commitment -- not a study of some form of "pollution" or another demonstration of an ecocycle or a set of "key concepts." It is new in that the strategy for environmental education stresses the students' motives, interests, and direction. The teacher participates as a colleague, searching out his/her own meanings and commitments, reflecting upon the implications of his/her own life-style, given the environmental "crisis."

This approach and this strategy are not employed here to demean other approaches and strategies, but rather to offer an alternative conception of environmental education which strikes to the core of what we see as the real significance of such education upon the close of one century, and hopefully, at the beginning of another.

If you find this guide reasonable, and if the approach and strategy for environmental education seem appropriate for your students, then materials are available. In Leon County, Florida, contact Dr. John Hutchinson, Science Center, Leon County Public Schools, Tallahassee. In Pinellas County, Florida, contact Dr. John L. Still, Social Studies Supervisor, Admininistration Building, Druid & Hercules Roads, Clearwater. Both have two old trunks full of stuff — one labeled "CITY," another labeled "NATURE." If you don't happen to teach in Leon or Pinellas Counties, Florida, do not fear. Simply get a few dollars together...buy two ancient trunks (ca. $3.00 each)...procure some cokes for a painting party... then, with your students make MESSING ABOUT kits suitable for your own locale.

> Believe me, my young friend, there is
> Nothing -- absolutely nothing -- so
> much worth doing as simply
> messing about in boats...or with boats...
> In or out of 'em, it doesn't matter.
>
> — Kenneth Grahame, The Wind
> in the Willows (1908)

"MESSING ABOUT" FOR ENVIRONMENTAL EDUCATION*

> We walked this afternoon to....Walden Pond. The south wind blew and filled with....warm light the dry and sunny woods. The last year's leaves blew like birds through the air. As I sat on the bank....and saw the amplitude of the little water, what space, what verge, the little scudding fleets of ripples found to scatter and spread from side to side and take so much time to cross the pond, and saw how the water seemed made for the wind and the wind for the water, dear playfellows for each other, -- I said to my companion, I declare this world is so beautiful that I can hardly believe it exists.
>
> Ralph Waldo Emerson, Journal entry for April 9, 1842

Emerson and Thoreau on the banks of Walden Pond had a conception of the natural order, the man-nature relationship, and the resulting lifestyles that has been peripheral in American life. Today as we face an environmental crisis, and as we attempt to "solve" that crisis with technological tinkering, it is increasingly apparent that what men do with their lives, and what societies do with their opportunities, depends not upon "crises" and technological powers. It is more dependent upon how these persons, and how societies, see themselves. Behavior is deeply governed by belief systems and self-image. Education to cope with the central challenges of population and environmental dilemmas must raise questions about the commitments and discernments which serve as the basis for current lifestyles and aspirations.

This conception of environmental education in no way demeans the place of scientific and technological knowledge. Without hard knowledge from the natural and the social sciences -- empirical description, explanation, prediction, and procedure of inquiry -- it is impossible to cope with environmental problems and to lay out ameliorative alternatives. However, the meaning that men search for in life, and the meaning to which they commit their lives, is not a theoretical construct or an empirical proposition. It is not an "objective reality." While input from the natural and social sciences is to be valued, the ultimate value is the ingredient which focuses and sustains human action, and directs man's use of his scientific and technological power. In our view, environmental and population problems are survival issues which are struggles first for the hearts and minds of men who must alter their priorities, make difficult decisions, and pursue policies and lifestyles based upon an ethos in man-land, man-nature relations which was alien to, or absent from, their cultural tradition. This is painful stuff for men to <u>live</u>; it is difficult for educators to teach.

*The authors, Rodney F. Allen, Daniel M. Ulrich, and Robert Peterson, are staff members of the Environmental Education Project, Florida State University, Tallahassee. Classroom teachers interested in instructional techniques and materials on environmental education from a humanistic perspective are encouraged to write to the Project, 426 Hull Drive, FSU, Tallahassee, Florida 32306.

It is tough to teach because coping with the population and environmental crisis also forces educators to confront more than the descriptive value questions of what do I/we want? Two children or ten? Clean air or busy factories? A GNP of x or of y? Educators have to go beyond the goals men pursue to the normative questions: What should I/others want? And they must probe the ultimate commitments of men which guide lifestyles and shape world-views: What is the meaning of life and how do I/we fit in? What is the Good Man, the Good Life, and the Good Society in our end of the Twentieth Century? To get at the hearts and minds of men in a manner appropriate for public education one must simply go beyond mere habits and goals--and beyond mere values, to probe the varieties of existential values ("ultimate concerns") that lend life its meanings.

The daily interaction in the classroom reveals commitments. While the hope is for reflection upon a variety of ultimate commitments, this might well be a product of the search for meaning in one's daily encounters. Ultimate commitment, the meaning of existence, and the great values which guide our lives are the products of our daily search for the meaning of objects and events, and our daily struggle for responsible decisions in the ethical dilemma that we face. In relating his Nazi concentration camp experiences, Viktor E. Frankl underscores the crucial point that a man is what he makes; that is, he makes himself by taking opportunities to discover meaning.*

*Viktor E. Frankl, Man's Search for Meaning (New York: Simon and Schuster, Inc., 1959), pp. 136-137.

ENVIRONMENTAL EDUCATION: Some Goals and Issues

We feel that the central goal of education in a dynamic society is the development of meaning and the related commitments which students prefer to make. Environmental education in particular has two central functions: first, to provide the opportunities and to assist students in reflection upon the diverse meanings and commitments (lifestyles) pursued by human beings and their environmental consequences; and second, to provide the opportunities and to assist students to find meaning and value in the daily phenomena of existence and their significance for survival and the quality of life. All other objectives, while important, are subsumed under these two functions.

If classroom teachers can agree with us to this point, let's summarize so that our position is almost "perfectly clear."

1. Environmental education is critical to our survival and for sustaining the quality of life that many urban persons (and increasingly rural persons) can now only dream about or remember.

2. Environmental education as technological tinkering and pollution "problem-solving" is not an effective education for a spaceship earth with ever increasing numbers of spacepersons who not only lust for more goods and services, but also foul their own nests in the process.

3. Environmental education which simply teaches "basic information" and "key concepts" is not adequate for survival, for a quality life, or for education. Education in its Latin root means "to bring forth" -- to bring forth ideas, perceptions, feelings, and commitments from the students for reflection, and to bring forth diverse ideas, commitments, and meanings from the culture for reflection by the students. The goal of such reflection is the student's personal commitments to lifestyles and meanings which foster justice and a quality of life for all to whom we may be obligated by the fact of our own existence.

If teachers are willing to accept these assertions, then certain pegagogical problems arise.

1. How can we make environmental education a serious endeavor--reflecting upon the existential questions of life (Who am I? Why does life exist? My life?) beyond mere goal-oriented decision-making and idle discussions of facts, concepts, and what should I/we do?

2. How can we raise environmental education above a consideration of the facts of "what is" to the meaning of these facts at the personal levels?

3. How can we really get students to reflect on lifestyles and the man-land, man-nature relationships so that students make and share their feelings, meanings, and commitments in the classroom? In other words, what vehicles do we have for our students to sit on the banks of the pond and to discover and share, as did Emerson and Thoreau, their commitments and meanings?

4. How can we do this with a variety of media which will tend to maximumize student interest and learning, especially in classes with diverse reading levels and cognitive abilities?

SOME "SOLUTIONS"

There are several responses to these pedagogical issues, but as we wrestled with our own response we discovered the work of David Hawkins, director of the Earth Science Curriculum Project, Boulder, Colorado. In an article for Science and Children,* Professor Hawkins described his notion of "messing about" as one of three pedagogical styles. Hawkins is concerned about students' ability to learn cognitive content; concepts, facts, and generalizations. He points to teachers' affective use of exposition; however, a weakness is always the raw experience ("the apperceptive background") students have and their motives to massage a problem on their own -- testing their own inquiry styles and entry knowledge. The problem is their problem, not ours (as teachers and curriculum designers), as they devote themselves to free and unguided exploratory work. Hawkins uses the example of students messing about the pendula, coping with the phenomena and trying to develop their own explanations. While he notes the autonomy drives (the "spontaneous and manifest enjoyment"), Hawkins stresses the drive to be competent in coping with a real, personal perplexity. In this drive the students structure their own process and their own understanding -- which is, after all, a search for meaning.

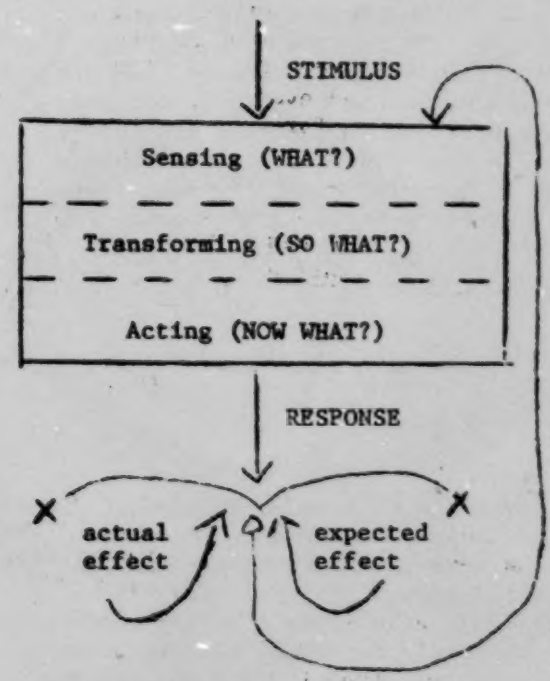
But our conception of environmental education calls for more than conceptual understanding, though it emphasizes the experiential knowing, so prized by Hawkins. We want students to seek meaning of a different kind -- a personal awareness and personal meanings. Still Hawkins' notion of play -- fanciful, probing, questioning, manipulating, imaginative experience -- was attractive, especially as it stressed the opportunity to try out what the student knew and thought he knew. It was also attractive as it stressed the pursuit of associations of meanings, relating phenomena one with others.

At this point, while Hawkins stressed cognition, we were convinced that our emphasis upon meaning and commitment should not lead us to separate in the usual educational manner, affective and cognitive, but

*David Hawkins, "Messing About in Science", Science and Children, Volume 2, no. 5 (February, 1965), 5-9. Also see John Holt, How Children Learn (New York: Dell Publishing Company, 1968), pp. 151-160.

to approach the two facets holistocally -- a gestalt. In this, we struck upon the educational style of Terry Borton and his model of learning, which -- not complex and "academic" -- was remarkable for its clarity and its direct application to the classroom.* Borton was concerned, thought he does not use the terms, with meaning and commitment at the personal level. He writes of concerns in relationship with one's environment, with control for one's own direction, and with self-awareness. His strategies seek reflection on students' ways of experiencing -- perceiving and making meaning -- and then turn this about to reflect upon self -- commitments and self-image (self awareness).

Borton's basic model calls for asking on each educational encounter (and he maintains that most encounters may be "educational"): What? So what? and Now what? While the application may be hard analytical or contemplative, the point is the personal growth of the student in terms of awareness, meaning, and commitment.



Given a stimulus, one poses perceptual questions involving WHAT? Classifying, relating, comprehending, identifying.

Given one's answers to WHAT? the logical sequel is SO WHAT? -- explaining, relating, abstracting, interpretating, evaluating (making meaning).

Given the meaning one discovered, NOW WHAT? -- What action does one take? Rehearsing possible actions toward the stimulus, on one hand, and/or toward the self, on the other -- then, acting.

Given the action, the feedbackloop is awareness based upon the intended effect of action and the perception of its actual effect. Based on this one modifies one's behavior toward the stimulus, alters self (and one's understanding of the stimulus), or lives with any dissonance between intended and actual response.

*See Terry Borton, Reach, Touch and Teach: Student Concerns and Process Education (New York: McGraw Hill, 1970), pp. 76-90.

Using Borton's model, we offered students cartoon booklets, poems, songs, quotation booklets, impressionistic films, newspaper clippings, statements of commitment, ethics cases, and art work. We provided opportunities for nature walks, free time to sit and reflect out-of-doors and alternative ideas for interaction. We provided stimulus objects ranging from rusted out mufflers and urban door locks to zoning maps and picture sets. Students were asked to discover some personal meaning and to pose Borton's questions: What?, So What?, and Now What? We spent time listening, listening carefully, to student discussions and to the performance of persons in the class.

Unused to such classroom interaction, some students took awhile to "get with it" -- a few never did! However, most responded favorably -- which was encouraging. In feedback sessions, students recorded their reactions to the materials and to the lessons. They spoke of blindfolded walks in the schoolyard with bare feet. Of close examinations of plastic flowers, and used oil filters, of city maps and renewal plans, of crime charts and tree photos. Most students seemed to appreciate the time to reflect with others and to mess about making their own meaning -- with others responding in kind. Some felt that they had a better grasp of Nature or the Urban Life -- depending on the materials used -- others didn't. In one high school, students went off at home to make their own contributions to the classroom materials -- and even organized a beach party to clean a stretch of beach, while searching for items with which to "seek meaning." Those attending the party sat together and used the wastes collected to make something useful! One person wrote a song to celebrate the beach cleaning, another composed a set of poems, but most were less articulate -- emphasizing their feelings and search for responses to Borton's (now their) question: So What? and Now What?

Each venture
Is a new beginning, a raid on the inarticulate.....

-- T.S. Eliot

From these pleasant beginnings, we were sufficiently encouraged to invest a few dollars in some paint and several old trunks. After a day of painting, we created two messing about KITS -- one entitled CITY, the other NATURE. Into each we deposited many of the following items -- many homemade -- others waiting to be made. Now these KITS are ready for sustained classroom use by those who feel that there is some value to messing about and posing Borton's questions -- searching for meaning in the mundane, seeking commitment in an era of environmental crisis.

NATURE	CITY
--Water Test Kit --Empty Detergent Box --A Dirty Auto Air Filter --An Electric Light Bill --Booklet: Before & After Photos of a Forest Fire --Picture Card Set of Visual Pollution --Two Half-finished Posters on Recycling --Plastic Bag (sealed) with Dead Bird Coated with Oil --Cassette Tapes: -Eddie Alpert on the Environment -Cat Stevens,"Where Do the Children Play?" -Grand Funk's Ecology Album -Easy Rider Sound Track -Simon & Garfunkle, "Patterns" -Student-made tape of Street & Nature Sounds (Woods, Seashore, etc.) --Some Pine Seeds (add a potted pine seedling) --A Set of Aerial Photos of the Land --An Air Pollution Shade Card, to detect density of smoke --An Inexpensive Plastic Model Car --A Rusted-Out Auto Muffler --A City Newspaper (Sunday edition) --Empty Pesticide Container --A Set of Quotation Cards --Audubon Magazine --Sierra Club Magazine --Homemade Cartoon Booklet on the Environment (Jules Feiffer, Bill Maudlin, etc.) --Three Aluminum Cans - crushed --A Bag of Pretty Rocks --A Jar of Homemade Compost --A Plastic Flower --A Photo Set of the Football Stadium: Before and After the Big Game --IBM Card - punched out --Handle from a Toilet --Population Growth Chart:USA/World --Painting of a Tree --Books: P. Lynch, National Environmental Test (New York: Pocket Books, 1971). -Stith Thompson, editor, Tales of the North-American Indians (Bloomington: Indiana University Press, 1966). -Frank Waters, Book of the Hopi (New Ballantine Books, 1963). -John G. Neihardt, Black Elk Speaks (Lincoln: University of Nebraska Press, 1969).	--Empty Rat Poison Box --Plastic Model Car --House Condemnation Notice --Street Map --Housing Inspector's Checklist --Picture Card Set of Contrasting Urban Scenes --Dirty Auto Air Filter --Set of Door Locks --Cartoon Booklet on Urban Living --Bus or Subway Token --Tax Bills --Paint Brush --Entertainment Page from a City Newspaper or The New Yorker --City Planner's Map --Land Use and Zoning Map --City Phone Directory --Parking Ticket --Parking Lot Slip --Health Board Inspection Form --City Newspaper --Zoning Change Application Form --Picture Card Set Showing a Variety of "Rooms" as Environments --An Issue of The Architectural Forum --Pictures of "Tool Kits" for the following: Doctors — Plumbers Carpenters — Steel Workers Cop — Poet Shortorder Cook — Preacher --Cassette Tapes: -City Sounds: Traffic and Streets -Simon & Garfunkle,"Bridge over Troubled Waters" -Cat Stevens,"Where do the Children Play?" --Rat Trap --A Copy of The Police Gazette --A Set of Keys --A Picture Card Set Showing Alternative Urban Lifestyles --A "Support Your Local Police" Bumper Sticker --A Planned Parenthood Poster --A TV Guide --An Accident Report Form --A Slide Set on Urban Parks & Open Spaces --Chamber of Commerce brochures on the City --A Slide Set showing a Variety of School Classrooms --A Piece of Posterboard with a Pencil attached, entitled "IMPROVEMENTS I WANT FOR MY CITY" --Plastic Envelope of Pigeon Droppings --Plastic Bottle of "Urban Air"

NATURE

-Paul Erlich, et al., How to Be A Survivor (New York: Ballantine Books, 1971).
-Rachel Carson, Silent Spring (New York: Houghton, Mifflin Company, 1962).
--Photos from magazines showing Suburban Sprawl
--Four local Chamber of Commerce Booklets on Your Community
--Pollution Report Form (local, State or EPA form)
--Eco-pornography: Business Ads in Folders
--Slide Set on Natural Beauty
--Slide Set on Aryists' Conceptions of Nature
--Picture Card Set on "Scenic" and "Ugliness" photos
-- Jar of Polluted Water
--Mining Industry Brochures
--Many Articles on the Environment Clipped from Magazines and Stapled in Folders
--Large Poster Board with Pencil Attached--entitled "THINGS I CAN DO WITHOUT...TO PROTECT THE ENVIRON_ MENT"
--Road Sign Indicating $500 Fine for Dumping
--Piece of Cardboard with a Small Hole in it, entitled "LOOK ANEW AT YOUR ENVIRONMENT
--Small Jar with Moist Pad and Three Beans (put on a sunny windowsill
--A Non-Returnable Bottle
--A Picture Card Set showing a Variety of Environments
--A Picture Card Set Entitled WHO SHOULD LIVE--containing endangered species

--Films: (Teacher to order)

-The Full Earth.16mm.10min. Byron Motion Pictures,65 K St.,NE, Washington, D.C.20002
-The End of One.16mm.6min.Learning Corporation of America.
-A Tale for Today.16mm.12min.Mass Media Ministries,Baltimore.
-Treehouse.16mm.9min.King Films.

CITY

--A Quotation Set by City Mayors on "Fun In My City"
--Charts of Urban Crime Rates
--Map of Urban Areas in the USA
--Three Cigar Butts
--Sewer Bill
--Slide Set on Extremes in Wealth in the City
--City Traffic Code
--Clipping Booklet (Newspaper) of Humor in the City News
--Quotation Booklet on Poor Persons' Comments
--Articles Clipped from Magazines on City Life
--Plans of Skylab to Contrast to City Office Worker's Space
--University Catalogue for an Urban Learning Center
--Jar of City Water (Drinking Variety)
--Photobook of Solid Waste Disposal
--City Map with Parks
--Visitors' Guide to Your City
--Films: (Teacher to Order)

-The City.16mm.1939.33min. US Gov't. Available from FSU Media Center.
-Treehouse.16mm.9min.King Films.
-The End of One.16mm.6min.Learning Corporation.

--Books:

-Lawrence Halprin, Freeways (New York: George Braziller, 1968).
-Lawrence Halprin, The RSVP Cycle (New York: George Braziller, 1969).
-Jonathan Kozol, Death at an Early Age (New York:Ballantine Books,1969).
--Set of Ethics (Conflict) Cases
--Menus from a Variety of Restaurants
--Light Bill
--City Budget
--Hospital Hill
--Want Ads: Male/Female
--Used Oil Filter
--Slide Set of City Architecture
--Set of Statements of Aspiration by Urban Peoples
--Attitude Questionnaires for Urban Life

NATURE	CITY
--More Books: -Whole Earth Catalogue Portola Institute, California -Paul Ehrlich, The Population Bomb (New York: Ballantine Books, 1968). -Seyyed Hassein Nasr, The Encounter of Man and Nature (London: Allen & Unwin, 1968). -The Arthur Godfrey Environmental Reader (New York: Ballantine Books, 1970). -John Stadler, Eco-Fiction (New York: Simon & Schuster, 1971).	

SOME BASIC ASSUMPTIONS

1/ That because the KIT is different, is manipulative, and is unique to students' prior classroom experience, student initial interest will be high.

2/ That because the KIT is full of different open-ended activities and contains a variety of media, student interest will be maintained especially if the teacher and peers are positive and supportive.

3/ That because the KIT is open-ended in time and in activities, the encounter will help both the teacher and the student assess where the student is in terms of:

perceptions and openness
interest in environmental topics
attitudes and entry beliefs
ability to symbolize; skills of interpretation and meaning-making
ability and willingness to participate and to learn with others.

4/ That education ought to be fun (at least enjoyable) permitting and encouraging self-direction and maximumizing opportunities for affiliative participation--forming groups for supportive educational experiences.

5/ That the first phase in the education process is awareness: awareness of self, of where one is, and of one's situation.

6/ That the route to human commitment and meaning in the existential sense is not likely in a formal educational setting to come as if on the road to Damascus, but rather by seeking meaning in the daily experiences--from moment to moment, task to task. That meaning comes not in some sweeping statement of philosophical tone or religious tone, but in the very real and concrete: the perception of the moment, the problem of the moment, etc. The ability to see one's self and perhaps the universe in a beer can on the side of a roadway!

7/ That to develop one's knowing is to <u>experience</u>; to use the immediate experience to increase one's awareness of it and thus to attend to higher levels of reality (knowing), as a comprehensive entity. St. Francis looking at a bird sees the bird as reality, but sees universal relationships; thus, he is a brother to the bird. Martin Buber seeing a tree may "see" it in many ways and as many things in relation to himself--but the tree has personal meaning as he relates to the tree and <u>their</u> universe.

The Messing About Kit requests students to use the immediate object and one's increasing awareness of it to attend to a higher level of reality (knowing) -- to a more comprehensive entity. This, the object at hand, is a springboard to reflect first upon the immediate experience and then raise the possibilities of higher meaning--in terms of one's personal meaning of his place, his culture, his fellows, to the living things about him).

On the one hand, the student looks hard at the object (convergent thinking) ⟷ On the other hand, the object "looks back" revealing its significance to the viewer (divergent thinking)

As Michael Polanyi observed: "It is not by looking at things, but by dwelling in them that we understand their meaning." One is reminded on Samuel Cemens, who as a boy stood in awe of the Mississippi and wanted to be a river pilot, but as a man--after his first trip in the pilot's cabin--could never see the river in the same way. He had "dwelled in" the river and discerned its meaning for the navigator, exchanging his boyhood awe and mystery.

CONCLUSION

Today the creative genius of men is challenged to mold an ethos appropriate to survival and a life full of meaning. Such an ethos must define a common good for mankind and foster justice for individuals and ecosystems upon which all life depends. Molding such an ethos is a religious-philosophical problem and its resolution lies with new commitments, both rational and emotional, by the mass of men who must survive and be human together. <u>Messing About Kits</u> provide a pedagogical component which may bring forth the conditions of awareness, probing and searching, to foster

the emergence of such an ethos. As students "mess about" asking "What?" and "So What?" they begin to turn the objects back upon themselves, to reflect on the "So What?" question in a way which leads them to ask "Now What?" The new realities of environmental awareness are important to molding an appropriate ethos as the "Now What?" questions create a self-awareness of the web of social and ecological reciprocities upon which our humanness depends.

But best of all the Messing About Kits*offer students a gentle opportunity to reflect on questions of meaning, without the bustle of teacher-directed discussion or the well-intended, but stark, arguments of ecological prophets of doom. The Kits do not overwhelm students, but seek to educate.

*A far more extensive eco-kit has been prepared by the Media Group, The Ontario Institute for Studies in Education, 102 Bloor Street, Ontario 5, Canada. Teachers might contact them for a description of the kit and the objectives.

STUDENT REACTIONNAIRE (Teachers may ditto, use with students, and mail to Project)

Grade Level___ Title of Course_____
CITY KIT_____/ NATURE KIT_____

1. The experience of working with this KIT has permitted me to learn:

2. I not only learned these things, but to me personally, the KIT let me learn this about myself:

3. Now that I have said what the KIT did (didn't do) for me, this is what I did for the experience:

   Studied_____ Took it seriously____ Read____ Took part in activities____

   Thought about it____ Fooled about____ Slept____ Cut class____

   etc. .... (fill in your own thing)

4. The experience got me to ask these new questions:

5. The experience helped me get this new attitude:

6. The experience helped me to reach these new conclusions:

7. The experience helped me to develop these new interests:

8. This experience, trying to teach me about the CITY and NATURE, just didn't cut it. I'd improve the kits by_____
   _____

9. What did you add to the KIT to make it better?

REACTIONNAIRE CITY KIT_____/ NATURE KIT_____/

Grade Level_____ Title of Course_____

1. Interest level reflected by students who used the kit: high____
   average____
   low____

2. Days spent in class using the kit?_____ days of class time

3. Level of student participation: Students read and did activities_____
   Students questioned and sought meaning _____
   Students added things to kit_____

4. Students found the unstructured kit:
   Dull____ Exciting____
   Confusing____ Difficult____
   Ho hum____ Worthwhile____
   Time killer____

5. Students tried to interpret what was in the kit, given the topic of the kit: _____yes _____no Because.....

6. Students applied Terry Borton's questions (What? So What? Now What?) to the stuff in the kit? _____yes _____no Because.....

7. Students found environmental concern_____ after using the kit.
   __/more personal __/more meaningful
   __/more relevant __/more important
   __/more interesting __/none of above!

8. The whole idea is ridiculous! Even if "messing about" was a good idea and we could do it at my school, your kits are losers!!!_____/

   Well, not exactly, because.....

-- fold and mail --

(stamp)

The Environmental Education Project
The Florida State University
426 Hull Drive
Tallahassee, Florida 32306

A WORD TO READERS

This is a weird little booklet you've encountered.

Who ever heard of a booklet simply titled TREE? But why not? It's about TREE. TREE the concept. TREE the word. TREE the image. TREE the experience. TREE the resource. TREE the poem, the beauty. TREE the universe!

The Tree of Liberty. "I'm up a tree!" "The tree is known by its fruit." Christ died on a tree, as did Western outlaws. Seamen on square-riggers set sail in the tree. The Tree of Life. Cut the tree, it's ripe!

The tree is many things "real" and "symbolic." The Yggdrasil — the world tree of Scandinavian mythology — bound heaven and earth with its branches and roots. An Aborigine tribe in its wanderings carried a sacred pole — a tree — which upon encamping they "planted" in the earth, symbolizing their Creation as the spirit descended to make them and returned via this "tree." One day the pole — carried for generations by the tribe — tore open, its ancient fibers decayed, and broke. The clan, confused, did not move on; without the pole — their meaning, they stayed, consumed all the food to be gathered, and died. Such is the power of symbolic trees! Buddha didn't sit under a tree for nothing!

Don't read this booklet for nothing! It's about TREE; and we suggest that you be about TREE too.

Steve Manieri
Rod Allen

The Environmental Education Project
The Florida State University
426 Hull Drive
Tallahassee, Florida 32306
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CONTENTS

A Word To Readers

Introduction

Vista I

Vista II

Vista III

Epilogue

INTRODUCTION

I THINK that I shall never see
A poem lovely as a tree.

A tree whose hungry mouth is prest
Against the earth's sweet flowing breast;

A tree that looks at God all day,
And lifts her leafy arms to pray;

A tree that may in Summer wear
A nest of robins in her hair;

Upon whose bosom snow has lain;
Who intimately lives with rain.

Poems are made by fools like me,
But only God can make a tree.

— Joyce Kilmer, 1913

A giant oak tree -- a white oak -- seventy feet tall, a hundred feet in diameter, with a trunk five feet thick, died in 1963. Located on the campus of Rutgers University in New Jersey, it was the tree believed to have inspired Joyce Kilmer to write "Trees."

Gnarled and split from the ravages of Time -- the tree was, after all, two hundred years old -- the ancient oak was senile. It had rotten places into which tree "experts" had poured concrete. It had branches long decayed and fallen. It had sores painted and fixed by surgeons, who knew about trees' arthritis. It had withered, shaken by New Jersey's cold winter and by its heat in summer. Freezes and thaws over two centuries had not missed their mark.

Kilmer, who penned the famous poem in 1913, had also withered. Serving in France during World War I, Sargeant Kilmer was killed in 1918. His tree began to wither in 1953, and a battery of tree surgeons labored with sprays, medicinal paints, and gasoline-powered saws to ward off impending doom. Birds fled while they worked for over a decade, but on September 18, 1963, the end came.

At tree-side, over two hundred persons gathered to stand silently in the cold drizzle as the commander of an American Legion Post, Forestry Club officials, and a twelve year old girl eulogized the tree. Now only the poem remained.

At the tree's death college personnel planted one of its acorns, so that the tree would live on through its descendents. Eternal Life. News stories reported this death and 18,000 requests came in for a piece of tree, some accompanied by money. College officials couldn't fill these requests, but they did distribute pieces to groups "having an interest in Joyce Kilmer." For example, the Sargeant Joyce Kilmer Post of the American Legion got its piece, a cross section of the 200-year old trunk.

Why would men plant such an acorn?

Why would men, women, and children want a piece of tree?

Is a piece of the tree more beautiful than a poem?

Apple
Live oak
Pecan
American holly
White pine
Douglas fir
Cedar
Walnut
Orange
Beech
Sabel Palm
Dogwood
Birch
Elm
Chesnut
Hickory
Maple
Locust
Poplar
Redwood
Cherry
Ash
Black gum
Magnolia
Sassafras
Willow
Mimosa
Peach
Sequoia
Aspen
Sourwood
Pear
Date Palm
Alder
Spruce
Cypress
Hemlock
Juniper
Black gum
Persimmon
Catalpa
Redbud
OsageOrange
Sweetbay
Laurel
Hornbeam
Plum
Buckthorn
Cottonwood
Basswood
Hawthorns
Scarlett Haw
Mulberry
Sycamore
Palmetto
Elder

Our understanding of trees is in part due to the fact that they are not only the largest life form on Earth but are the oldest as well. There are trees which stand hundreds of feet high. There are trees alive today that witnessed the unfolding of human history for over 3,000 years.

Trees have invoked and inspired many different perceptions and meanings for the persons who have lived about them. Some persons have hacked away at them for canoes and homes, while others have written poems in their honor. Some men have planted trees to raise as a crop, while others stood in awe and worshipped the spirit of the tree. Some persons have studied their parts scientifically, while others have set them afire in a form shaped like a cross.

The tree is really like other plants. It uses the same biochemical techniques to live and to grow as other plants. However, human beings have responded to trees in special ways. The tree has raised a variety of perceptions from men and the tree has raised an important array of value questions.

This booklet offers a set of materials which were gathered to reflect the diverse perceptions, meanings, and values that trees have evoked from persons over the course of our history together on Earth.

How men have responded to TREE is a product of how they see themselves: the meaning they have made of life, the experiences they have had, the values to which they have committed their lives.

How man sees himself governs how he acts toward the things around him.

VISTA I

"I had to cut the tree, it was ripe!"

--Tree Farm Manager

"We shake down acorns and dig pinenuts. We don't chop down the trees. We only use dead wood. But the white people plow up the ground, pull up the trees, and kill everything. The tree says, "Don't. I am sore. Don't hurt me." But they chop it down and cut it up. The spirit of the land hates them...."

--California Indian women

The Shantyboy's Alphabet

Sung by Emerson Woodcock
Peterborough, Ontario November 1958

wrong.

Edith Fowke, Lumbering Songs from the Northern Woods (Austin: University of Texas Press, 1970), pp. 25-26.

GIANT TREES

No one who loves trees can fail to be interested in the following account of some of the forest giants of California, as given by a correspondent of the San Francisco (Cal.) Pacific:

Sallying out from the hotel to see the wonders of the place, the visitor naturally first examines the enormous stump of the tree near the house, which was cut down by sacrilegious hands a few years since....The stump is now inclosed within canvas walls, the top having been smoothed off like a floor, for dancing purposes, and is surrounded by a row of seats. Here the Alleghanians once gave a concert to fifty persons, all of whom, with the performers, occupied the stump at the same time! On one Fourth of July, also, thirty-two persons (four sets) danced a cotillion upon it at once, without inconvenience. I stepped off the distance across it, and found it to be ten good paces, although the top is about six feet above the ground and the bark has been taken off. The stump is sound to the core.

It required no little ingenuity, as well as persevering labor, to fell this enormous denizen of the forest. It could not be accomplished with axes. How then, think you, it was done? By boring a series of holes completely around it from circumference to center, with augers of upward of fifteen feet in length, made for the purpose. But when the trunk had thus been severed, so plumb was the tree that it would not fall. After trying in vain various expedients to topple it over, at length a large tree of another species standing near was felled against it, but still it stood. A second resort of this kind finally succeeded, and the noble monarch of the woods yielded, and bowing his head, fell... with a crash that reverberated like a thousand thunders among the mountains, and shook the solid ground like an earthquake--the huge trunk breaking in several places like a pipe-stem. Five men were engaged for twenty-five days in this infamous work. If their names could be ascertained, they ought to be inscribed on a pillar near, inclosed in a black border, and thus be held up to the execrations of all the visitors to this spot.

A portion of the trunk still remains near the stump, and the top of it, as it lies horizontally, reaches above the eaves of the house. It is ascended by a flight of steps, twenty-six in number, and nearly perpendicular. A man looks like a pigmy standing beside it. At a little distance, a double bowling-alley has been constructed on another portion of the trunk, which has been cut down flat for the purpose.

Robert Merry, Miram Hatchet, and Aunt Sue, editors, Merry's Museum, Parley's Magazine, Woodworth's Cabinet, and the Schoolfellow (New York: T.N. Stern, 1862), Volume 42, 109.

TREE FARM

THE FIRST TIME I saw youthful Bob Murphy at his 950-acre farm near the town of Washington down in Wilkes County, Ga., he was jabbing a chemical injection gun deep into the trunk of a deformed old tree. The purpose, Bob explained, was to kill the unwanted vines, brush, and hardwood trees with but little commercial value and to make room for his young 3-to 5-foot pines which needed more moisture and sun.

Three years before, Bob, his wife, and some hired help had wound their way through this field of nondescript trees and underbrush and hand planted about 900 loblolly pine seedlings on each acre. Seedlings were spaced every 6 feet in rows 8 feet apart. Most had survived. Now they needed more room to grow.

Bob said the brush and hardwood trees killed by the chemical injection lose their leaves and then gradually rot and fall to the ground. The resulting debris provides a thick moisture mulch for the young pines and protects the soil from erosion.

Crewcut and sporting a healthy tan, Murphy at age 26 typifies today's younger generation of farmers. . . the Murphys have been able to work over and improve about two-thirds of their 800 acres of woodland. Around 200 acres of previously unproductive woodland have been planted with loblolly pine seedlings, and the undesirable brush and hardwoods removed from about one-half of this newly planted area.

Besides this, they have carried out conventional timber stand improvement work-mostly killing off the undesirable brush and the poor quality trees-on more than 300 acres of other land. This area had a fairly good stand of pine trees intermixed with other tree growth when the Murphys purchased the farm. By removing the unwanted growth, the remaining pines could grow fast and straight.

By 1970, the Murphys hope to have all 800 acres of woodland producing a maximum growth of pine trees . . .

The Murphys' woodland is one of 4 1/2 million of our Nation's family forests, 75 percent of which are farmer-owned. What has been done on the Murphys' property can be repeated on many others.

As Tom K. Wilson, the Farmers Home Administration's credit technician for Wilkes County, points out, "Our wood-processing industries need more timber to meet ever-increasing demands from an energetic Nation which will see 330 million people living within its shores by the year 2000."

Robert E. Nipp, "Pine Trees and Profits from a Family Forest," in Outdoors U.S.A., The 1967 Yearbook of Agriculture (Washington, D.C.: Government Printing Office, 1967), pp. 371-372.

THE TALE OF THE TREE AND THE DINING ROOM TABLE

At night when our dinner is over and done,
Daddy may want to read, but I want to have fun;
So I climb on his lap and start turning the pages,
As boys have been doing for ages and ages.
Then I ask about this and I ask about that,
It may just be a box, or a book, or a hat,
Or it may be a lady-and that, I may mention,
Is the best plan for getting a father's attention.

Once a funny-dressed man was smacking a tree
With something that looked like a hammer to me.
"What is the man doing," said I, "my dear Daddy?"
"He's chopping the tree down, my bonny wee laddy."
"But why is he chopping the tree down?" said I.
"Well now," he replied, "if you're going to ask why,
I might as well tell you, as well as I'm able,
The tale of the tree and the dining room table."

Whereupon he reached over and laid down his book,
While over his face came that very queer look
That he wears when he suddenly starts in a-thinking,
His face all screwed up and his one eye a-winking.
Then he cuddled me up in his arms and began
To tell me the tale of the funny-dressed man.
"It's a story," he said, "that goes right on forever;
Its beginning is lost in the mists of No-never."

"Far off where the giant trees reach to the sky,
Where the rivers are deep and the mountains are high,
Where streets are unknown, where so few people wander
That they call it the land of 'Away-over-Yonder,'
There the lumberjacks live in their open-air camps,
In the smoke of their fires and their kerosene lamps.
Their wrists are like iron, their skin is like leather,
Yet they have to wear woollies, so cold is the weather.

"These lumberjacks work away up in the hills,
Where the air is so quiet it gives one the chills,
Where all that you hear is a choppy-chop-chopping
That goes on all day without ever once stopping.
It's the noise of the lumberjacks chopping down trees;
The man in the picture is just one of these.
He's chopping the tree with the axe he is swinging,
And I shouldn't be one bit surprised if he's singing."

"So that's what he's doing, the naughty big man,"
Said I, for I like to break in when I can.
But Daddy said "Hush!" and looked terribly haughty,
"Please don't interrupt me, the man isn't naughty.
This isn't like one of the trees in our yard.
He's doing his duty and works very hard,
So we can have houses and chairs to sit down in
And street cars and buses to go into town in.

John Mackay Shaw, The Things I Want (Tallahassee: Friends of the Florida State University Library, 1967), pp.30-31.

MAN'S BEST FRIEND, THE TREE

TREES help keep our air supply fresh by using up carbon dioxide that we exhale and that factories and engines emit ...

TREES use their hairy leaf surfaces to trap and filter out ash, dust, and pollen particles carried in the air ...

TREES dilute gaseous pollutants in the air as they release oxygen ...

TREES can be used to indicate air pollution levels of sulfur dioxide, just as canaries were once used to detect dangerous methane gas in coal mines ...

TREES provide food for birds and wild animals ...

TREES lower air temperatures by enlisting the sun's energy to evaporate water in the leaves ...

TREES increase humidity in dry climates by releasing moisture as a by-product of food-making and evaporation ...

TREES give us a constant supply of products-lumber for buildings and tools, cellulose for paper and fiber; as well as nuts, mulches, oils, gums, syrups, and fruits ...

TREES slow down forceful winds ...

TREES cut noise pollution by acting as barriers to sound. Each 100-foot width of trees can absorb about 6 to 8 decibels of sound intensity. Along busy highways, which can generate as much as 72 decibels, this reduction would be welcome to residents ...

TREES provide shelter for birds and wildlife and even for us when caught in a rain shower without an umbrella ...

TREES shade us from direct sunlight better than any sombrero. They are welcome in parking lots on hot, sunny days ...

TREES camouflage harsh scenery and unsightly city dumps, auto graveyards, and mine sites ...

TREES offer a natural challenge to youthful climbers ...

TREES make excellent perches for Robinson Crusoe-style playhouses ...

TREE branches support ruggedly-used swings ...

TREE leaves break the onslaught of pelting raindrops on the soil surface and give the soil a chance to soak up as much water as possible ...

TREE leaves, by decaying, replace minerals in the soil and enrich it to support later plant growth ...

TREE roots hold the soil and keep silt from washing into streams ...

TREE roots help air get beneath the soil surface ...

TREES salve the psyche with pleasing shapes and patterns, fragant blossoms, and seasonal splashes of color ...

TREES break the monotony of endless sidewalks and miles of highways ...

TREES beautify our gardens and grace our backyards ...

TREES soften the outline of the masonry, metal, and glass cityscape ...

TREES increase the value of property ...

And TREES provide for America's economic growth and stability.

Florida Division of Forestry, Tallahassee, 1971.

THE OLD TREE AND THE GARDENER.

A GARDENER in his garden fair
Had an old tree which did not bear,
A giant pear, prolific erst,
But-such our fate!-with age accurst.
The gardener, the ungrateful clown,
Purposed one morn to cut it down:
Taking his axe, away goes he;
At the first stroke thus spake the tree:
'Respect my age; remember how
'I've yearly given thee fruit enow;
'Death has already gripped me fast;
'A moment, and my days are past!
'O kill me not' I soon must die;
'Your benefactor once was I.'
'It is with pain I make thee bleed,'
The gardener said, 'but wood I need!'
Some hundred nightingales thereon,
Tuning their notes in unison,
Cried: 'Spare; none else have we but it:
'When 'neath its shade thy wife would sit,
'She joys to hear our music soft,
'And, when she's lonely, as she's oft,
''Tis we who charm her weary hour.'
The gardener drives them from their bower,
Laughs their request to scorn, and now
He strikes the tree a second blow:
Forthwith a swarm of bees proceed
Forth from the trunk, and thus they plead:
'Stop, you inhuman man, you! hear:
'If you this refuge will but spare,
'We will present you day by day
'With luscious honey, which you may
'Take to the town, and sell the comb:
'Mayhap that word will touch you home.'
'I weep for tenderness,' replies
The gardener, full of avarice;
'What owe I not to that poor tree
'Which in its younghead nourished me?
'My wife comes not unfrequently
'To hear those birds-enough for me:
'Sing may they to their heart's content;
'And, ye, who would my means augment,
'I'll scatter seed through all the shire,
'That flowers may spring which you require.'
That said, he's off, his guerdon sure,
And lets the old trunk still endure.

Count on men's gratitude you may,
But only when the gratitude will pay.

J.F.C. Florian, The Fables of Florian (London: Longmans, Green and Company, 1896), pp. 37-38.

BARK OF TREES

The bark of various trees has been widely taken advantage of for many purposes-for clothing, food, writing, etc., and has even been used in lieu of coin. In very ancient times, in the northern parts of Europe, mankind had apparently no other garments than the bark of trees, and it was not until later on that he began to clothe himself in the skins of animals. Even yet in many parts of the world, notably in the islands of the South Seas and in the Malay Archipelago, the bark of trees is formed into a kind of cloth. The process of manufacture is very much the same everywhere. Large cylinders of bark are cut from the tree and beaten with mallets till it separates from the wood. It is then repeatedly soaked and beaten till it becomes extremely thin and very tough. Sometimes the sap from the bark of a certain tree is used to stain this cloth, and it also renders it waterproof ...

Bark has even been used as food in emergencies. Thus we are told that during the retreat of Xerxes, his army being in sore straits for provisions, they stripped off the bark of trees and ate it along with the leaves. A pestilence, however, followed this strange diet, and destroyed large numbers of them.

Boats were frequently made of bark. Among the Tinneh tribes of North America the canoes were formed from strips of bark sewn together with fibre, and the seams were filled with pitch made from Fir trees. In Russia, boats are still made from the bark of the Birch. The aborigines of Australia, according to Captain Cook, used sheets of bark crimped up at the ends as canoes.

In very early times the inner bark of trees was used for writing upon. This is the layer called in Latin liber; hence a book, consisting as it did of leaves made from that inner bark....

Alexander Porteous, Forest Folklore: Mythology and Romance (New York: Macmillan Company, 1928), pp. 247-248.

THE TRAVELER

The trees of the Eastern World have always attracted the attention of travelers, and much has been written in regard to them. The date-palm, with its cylindrical columnar stem and crown of leaves, is a ... graceful object in the deserts.... Seated in their cooling shade, surrounded by beautiful groves of tall waving trees, the newly arrived traveler seeks to define the various emotions which crowd upon his mind, as for the first time he enjoys the hospitable abode of the palm-tree groves, and breathes the balmy atmosphere with which they are filled. Under their natural shelter, the orange, the lemon, the pomegranate, the olive, the almond, and the vine grow in luxurious abundance, producing the most delicious fruit. And here, while the eyes are fed with the endless variety of flowers which deck these sylvan scenes, the ears are at the same time ravished with the melodious notes of numerous birds, which are attracted to these groves by the shade and the cool springs and the food which they there find. The date, the cocoa-nut, and the sago-palm are of vast importance to mankind, for the nourishing food they supply...

The produce of the banana, or plantain, another inhabitant of tropical climes, is still more enormous, a plant which requires little cultivation, and is to immense numbers of the human race what rice is to the Hindoos and Chinese, and wheat to the Europeans ....

The importance of the date-tree is one of the most curious subjects to which a traveler can direct his attention. A large portion of the inhabitants of Egypt, Arabia, and Persia subsist almost entirely upon its fruit. They boast also of its medicinal qualities.

Robert Merry, Hiram Hatchet and Aunt Sue, editors, Merry's Museum, Parley's Magazine, Woodworth's Cabinet, and the Schoolfellow (New York: T.N. Sterns, 1862), Volume 42, 85-86.

ACORNS AND NUTS

The remark..."What a great thought of God was that when He thought a tree!" [shows] the tree in all its various aspects, considering its [use] from every point of view, whether as contributing to the shelter of mankind by its timber, or by its foliage, from the bitter blasts or from the torrid heat; or ministering to his...emotions by the beauty of the leaves and flowers; or providing for his sustenance by the luscious fruits and nourishing juices. The Ancient Greeks called the Oak the "Mother Tree," because their mythology avers that after Jupiter had slain the giants, the Oak sprang up from the body of one of them....This tree the Greeks looked upon as the first tree which grew upon earth and which provided nourishment to men by its acorns.... In fact, primitive man seems to have nourished himself largely on acorns and nuts of various kinds, which diet was in no way [harmful] to him, as they being

"Fed with the oaken mast,
The aged trees themselves in age surpassed."

To the imagination of early man a tree, being the largest of plants, must have presented a marvellous and bewildering aspect.

Alexander Porteous, Forest Folklore: Mythology and Romance. (New York: Macmillan Company, 1928), p.149.

HIAWATHA'S CANOE

"Give me of your bark, O Birch-tree!
Of your yellow bark, O Birch-tree!
Growing by the rushing river,
Tall and stately in the valley!
I a light canoe will build me,
Build a swift [canoe] for sailing,
That shall float upon the river,
Life a yellow leaf in Autumn,
Like a yellow water-lily!
"Lay aside your cloak, O Birch-tree!
Lay aside your white-skin wrapper,
For the Summer-time is coming,
And the sun is warm in heaven,
And you need no white-skin wrapper!"...
And the tree with all its branches
Rustled in the breeze of morning,
Saying with a sigh of patience,
"Take my cloak, O Hiawatha!"
With his knife the tree he girdled;
Just beneath its lowest branches,
Just above the roots, he cut it,
Till the sap came oozing outward;
Down the trunk, from top to bottom,
Sheer he cleft the bark asunder,
With a wooden wedge he raised it,
Stripped it from the trunk unbroken.
"Give me of your boughs, O Cedar!
Of your strong and pliant branches,
My canoe to make more steady,
Make more strong and firm beneath me!"
Through the summit of the Cedar
Went a sound, a cry of horror,
Went a murmer of resistance;
But it whispered, bending downward,
"Take my boughs, O Hiawatha!"
Down he hewed the boughs of cedar,
Shaped them straightway to a framework,
Like two bows he formed and shaped them
Like two bended bows together.
"Give me of your roots, O Tamarack!
Of your fibrous roots, O Larch-tree!
My canoe to bind together,
So to bind the ends together
That the water may not enter,
That the river may not wet me!"
And the Larch, with all its fibres,
Shivered in the air of morning,
Touched his forehead with its tassels,
Said, with one long sigh of sorrow,
"Take them all, O Hiawatha!"
From the earth he tore the fibres,
Tore the tough roots of the Larch-tree,

Mildred P. Harrington, and J.H. Thomas, editors, Our Holidays in Poetry (New York: H.W. Wilson Company, 1929), pp. 159-163.

Closely sewed the bark together,
Bound it closely to the framework,
"Give me of your balm, O Fir-tree!
Of your balsam and your resin,
So to close the seams together
What the water may not enter,
That the river may not wet me!"
And the Fir-tree, tall and sombre,
Sobbed through all its robes of darkness,
Rattled like a shore with pebbles,
Answered wailing, answered weeping,
"Take my balm, O Hiawatha!"
And he took the tears of balsam,
Took the resin of the Fir-tree,
Smeared therewith each seam and fissure,
Made each crevice safe from water....
Thus, the Birch Canoe was builded
In the valley, by the river,
In the bosom of the forest;
And the forest's life was in it,
All its mystery and its magic,
All the lightness of the birch-tree,
All the toughness of the cedar,
All the larch's supple sinews;
And it floated on the river
Like a yellow leaf in Autumn,
Like a yellow water-lily.

Henry Wadsworth Longfellow

VISTA II

"If you have once planted a tree . . . you have always in it a peculiar interest. You care more for it than you care for all the forests of Norway or America. You have planted it, and that is sufficient to make it peculiar amongst the trees of the world."

--Alexander Smith, Books and Gardens (1860)

"Trees have about them something beautiful and attractive even to the fancy, since they cannot change their places, are witnesses of all the changes that take place around them; and as some reach a great age, they become, as it were, historical monuments, and like ourselves they have a life, growing and passing away,--not being inanimate and unvarying like the fields and rivers. One sees them passing through various stages, and at last step by step approaching death, which makes them look still more like ourselves.--"

--Wilhelm von Humboldt.

PARTS OF THE TREE

The Audubon Nature Encyclopedia (Philadelphia: The Curtis Publishing Company, 1965), Volume 11, 2034, 2036.

Aldo Leopold, Sand County Almanac (New York: Oxford University Press, 1966), pp. 124-125.

PEACH TREE

Dee Brown, Bury My Heart At Wounded Knee (New York: Bantam Books, 1971), pp. 23-25, 27-28.

WOODMAN, SPARE THAT TREE

Woodman, spare that tree!
  Touch not a single bough!
In youth it sheltered me,
  And I'll protect it now.
'Twas my forefather's hand
  That placed it near his cot;
There, woodman, let it stand,
  Thy axe shall harm it not!

That old familiar tree,
  Whose glory and renown
Are spread o'er land and sea-
  And wouldst thou hew it down?
Woodman, forbear thy stroke!
  Cut not its earth-bound ties;
Oh, spare that aged oak,
  Now towering to the skies!

When but an idle boy
  I sought its grateful shade;
In all their gushing joy
  Here, too, my sisters played.
My mother kissed me here;
  My father pressed my hand-
Forgive this foolish tear,
  But let that old oak stand!

My heart-strings round thee cling,
  Close as thy bark, old friend!
Here shall the wild-bird sing,
  And still thy branches bend,
Old tree! the storm still brave!
  And, woodman, leave the spot;
While I've a chance to save,
  Thy axe shall harm it not.

George P. Morris

M.P. Harrington and J.H. Thomas, Editors, Our Holidays in Poetry (New York: H.W. Wilson Company, 1929), pp. 196-197.

TREE

Christa Cervenka
Pinellas Park Junior High School

From Section D, St. Petersburg Times, ca. 1971.

NAMES

Leaving the immediate neighborhood of the hotel, [into the redwood forest], the visitor is conducted next through the adjoining grove, by a path that has been so constructed as to take him near to all the remarkable members of the group. This is "the grand tour." The trees have all received more or less fanciful names, which are posted upon them, either inscribed on tin plates or marble tablets. Their height and circumference is also given....

"The Miner's Cabin" is three hundred feet high and eighty feet in circumference, tapering very gradually. It has an opening in the trunk forty feet high and seventeen feet wide. "The Three Graces" are beautiful specimens, all growing from the same root, very straight and perfect, nearly three hundred feet high, and having no limb within two hundred feet of the ground. "The Old Bachelor" is a forlorn object, sixty feet in circumference and about three hundred feet in height, with a very rough bark and forbidding appearance. "The Hermit" stands alone, three hundred and twenty feet high, remarkably straight and symmetrical, and seventy-five feet in circumference. "Hercules" is a most striking object. It is three hundred and fifty feet in height, and one hundred and seven in circumference, or more than thirty-two feet through! It is the largest perfect standing tree in the grove. It has been carefully estimated that it would make seven hundred and twenty-five thousand feet of lumber or enough to load a large ship! It leans so that the top is about forty feet out of the perpendicular, and hence it should have been called "The Leaning Tower." What an enormous weight must be supported by the butt, as the tree stands! It seems to be perfectly sound and vigorous.

Robert Merry, Miram Hatchet, and Aunt Sue, editors, Merry's Museum, Parley's Magazine, Woodworth's Cabinet, and the Schoolfellow (New York: T.N. Stern, 1861), Volume 41, 110.

Jerry Baker, Plants Are Like People (Los Angeles: Nash Publishing Company, 1971), pp. 135-136.

THE HEART OF THE TREE

What does he plant who plants a tree?
He plants the friends of sun and sky;
He plants the flag of breezes free;
The shaft of beauty, towering high;
He plants a home to heaven anigh
For song and mother-croon of bird
In hushed and happy twilight heard-
The treble of heaven's harmony-
These things he plants who plants a tree.

What does he plant who plants a tree?
He plants cool shade and tender rain,
And seed and bud of days to be,
And years that fade and flush again;
He plants the glory of the plain;
He plants the forest's heritage;
The harvest of a coming age;
The joy that unborn eyes shall see-
These things he plants who plants a tree.

What does he plant who plants a tree?
He plants, in sap and leaf and wood,
In love of home and loyalty
And far-cast thought of civic good-
His blessing on the neighborhood
Who in the hollow of his hand
Holds all the growth of all our land-
A nation's growth from sea to sea
Stirs in his heart who plants a tree.

Poems of H.C. Bunner (New York: Charles Scribner's Sons, 1884).

THE TREE OF MY LIFE

When I was yet but a child, the
gardener gave me a tree,
A little slim elm, to be set wher-
ever seemed good to me.
What a wonderful thing it seemed! with
its lace-edge leaves uncurled,
And its span-long stem, that should grow
to the grandest tree in the world.
So I searched all the garden round, and
out over field and hill,
But not a spot could I find that suited my
wayward will.
I would have it bowered in the grove, in a
close and quiet vale;
I would rest it aloft on the height, to
wrestle with the gale.

Then I said, "I will cover its roots with
a little earth by the door,
And there it shall live and wait, while I
search for a place once more.
But still I could never find it, the place
for my wondrous tree,
And it waited and grew by the door, while
years passed over me.
Till suddenly, one fine day, I saw it was
grown too tall,
And its roots gone down too deep, to be
ever moved at all.

So here it is growing still, by the lowly
cottage door;
Never so grand and tall as I dreamed it
would be of yore,
But it shelters a tired old man in its sun-
shine-dappled shade,
The children's pattering feet round its
knotty knees have played,
Dear singing birds in a storm sometimes
take refuge there,
And the stars through its silent boughs
shine gloriously fair.

Edward R. Sill, Hermione and Other Poems (New York: Houghton, Mifflin and Company, 1899), pp. 94-95.

TREES PLANTED AT THE BIRTH OF A CHILD

Following out the train of ideas whence originated the belief that mankind had his origin from trees, or that he was often transformed into trees, it can clearly be understood how an intimate and close analogy could be drawn between the life of a man and the life of a tree. Man, in fact, has always assumed a kind of inevitable relationship between the one and the other, and this may be seen from the many legends which tell how trees shed drops of blood, groan, speak, or become withered on the death of persons of whom they were the symbolic representatives. In connection with this there still exists a kind of half-superstitious custom with a poetic strain in it. Many families in Great Britain, France, Germany, Italy, and other countries retain the custom of planting a young tree for good luck when a child, particularly an heir, is born. This tree grows with the child, and as its destiny is to increase and to multiply itself, so a similar destiny is desired for the child. This symbolic tree is most carefully tended., but should the tree perish from any cause it is considered that the life of the being it represents is in the utmost jeopardy. A Poplar tree was planted at the birth of Virgil.

Alexander Porteous, Forest Folklore: Mythology and Romance (New York: Macmillan Company, 1928), p. 182.

A B C's IN GREEN

The trees are God's great alphabet:
With them He writes in shining green
Across the world His thoughts serene.

He scribbles poems against the sky
With a gay, leafy lettering,
For us and for our battering.

The wind pulls softly at His page,
And every star and bird
Repeats in dutiful delight His word,
And every blade of grass
Flutters to class.

Like a slow child that does not heed,
I stand at summer's knees,
And from the primer of the wood
I spell that life and love are good,
I learn to read.

M.P. Harrington and J.H. Thomas, editors, Our Holidays in Poetry (New York: H.W. Wilson Company, 1929), p.143.

Aldo Leopold, Sand County Almanac (New York: Oxford University Press, 1966), pp. 7-9, 19.

WHO I AM

Wendell Berry, "To A Siberian Woodsman" in Openings (New York: Harcourt, Brace Jovanovich, Inc., 1968).

LIKE A TREE

Happy is the man that hath
not walked in the counsel
of the wicked,
Nor stood in the way of
sinners,
Nor sat in the seat of the scornful.
But his delight is in the law of the
LORD;
And in His law doth he meditate
day and night.
And he shall be like a tree planted
by streams of water,
That bringeth forth its fruits in its
season,
And whose leaf doth not wither;
And in whatsoever he doeth he
shall prosper.

- PSALM 1:1-3

Holy Scriptures (Philadelphia: The Jewish Publication Society, 1955), p.365.

VISTA III

"I love to drive along this highway and look out at the beautiful trees; sometimes we just stop and look. It makes me feel good."

"Maybe the ancient folk of Northern Europe worshipped trees, but I know that my experience with trees helps me know who I am and why I exist!"

THE SOUL OF A VIOLIN

--Marjorie Chermside

Lawrence W. Neff, editor. Poems of Trees (Emory: The Banner Press, 1934). p.11.

THOUGHTS UNDER AN OAK--A DREAM

This is the fourth day of a dark northeast storm, wind and rain. Day before yesterday was my birthday. I have now entered on my 60th year. Every day of the storm, protected by overshoes and a waterproof blanket, I regularly come down to the pond, and ensconce myself under the lee of the great oak; I am here now writing these lines. The dark smoke-colored clouds roll in furious silence athwart the sky: the soft green leaves dangle all round me; the wind steadily keeps up its hoarse, soothing music over my head--Nature's mighty whisper. Seated here in solitude I have been musing over my life--connecting events, dates, as links of a chain, neither sadly nor cheerily, but somehow, today here under the oak, in the rain, in an unusually matter-of-fact spirit.

But my great oak--sturdy, vital, green--five feet thick at the butt: I sit a great deal near or under him. Then the tulip tree near by--the Apollo of the woods--tall and graceful, yet robust and sinewy, inimitable in hang of foliage and throwing-out of limb; as if the beauteous, vital, leafy creature could walk, if it only would. (I had a sort of dream-trance the other day, in which I saw my favorite trees step out and [dance] up, down, and around, very curiously--with a whisper from one, leaning down as he passed me, "We do all this on the present occasion, exceptionally, just for you.")

Walt Whitman, Specimen Days (New York: The New American Library, 1961), pp. 151-152.

TREE OF KNOWLEDGE

No shrub of the field was yet in the earth, and no herb of the field had yet sprung up: for the LORD God had not caused it to rain upon the earth, and there was not a man to till the ground: but there went up a mist from the earth, and watered the whole face of the ground. Then the LORD God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul. And the LORD God planted a garden eastward, in Eden; and there He put the man whom He had formed. And out of the ground made the LORD God to grow every tree that is pleasant to the sight, and good for food; the tree of life also in the midst of the garden, and the tree of the knowledge of good and evil.... And the LORD God took the man, and put him into the garden of Eden to dress it and to keep it. And the LORD God commanded the man, saying: 'Of every tree of the garden thou mayest freely eat; but of the tree of the knowledge of good and evil, thou shalt not eat of it; for in the day that thou eatest thereof thou shalt surely die.'

And the LORD God said: 'It is not good that the man should be alone: I will make him a help meet for him.' And out of the ground the LORD God formed every beast of the field, and every fowl of the air; and brought them unto the man to see what he would call them; and whatsoever the man would call every living creature, that was to be the name thereof. And the man gave names to all cattle, and to the fowl of the air, and to every beast of the field; but for Adam there was not found a help meet for him. And the LORD God caused a deep sleep to fall upon the man, and he slept; and He took one of his ribs, and closed up the place with flesh instead thereof. And the rib, which the LORD God had taken from the man, made He a woman, and brought her into the man. And the man said: 'This is now bone of my bones, and flesh of my flesh; she shall be called Woman, because she was taken out of Man.'

Now the serpent was more subtle than any beast of the field which the LORD God had made. And he said unto the woman: 'Yea, hath God said: Ye shall not eat of any tree of the garden?' And the woman said unto the serpent: 'Of the fruit of the trees of the garden we may eat; but of the fruit of the tree which is in the midst of the garden, God hath said: Ye shall not eat of it, neither shall ye touch it, lest ye die.' And the serpent said unto the woman: 'Ye shall not surely die; for God doth know that in the day ye eat thereof, then your eyes shall be opened, and ye shall be as God, knowing good and evil.' And when the woman saw that the tree was good for food, and that it was a delight to the eyes, and that the tree was to be desired to make one wise, she took of the fruit thereof, and did eat; and she gave also unto her husband with her, and he did eat. And the eyes of them both were opened....

Genesis 2:5-9, 15-23, 3:1-7. Holy Scriptures (Philadelphia: The Jewish Publication Society, 1955), pp. 4-5.

IROQUOIS: THE TREE OF THE GREAT PEACE

William N. Fenton, editor, Parker on the Iroquois (Syracuse: Syracuse University Press, 1968).

LIFE

Edwin A Menninger, Fantastic Trees (New York. The Viking Press, 1967), pp. 255-256.

THE CARPENTER

Chuang Tzu, Basic Writings, Burton Watson, Translator (New York: Columbia University Press, 1964), pp. 59-62.

Edward Hyams. Soil and Civilisation (London: Thames and Hudson, 1952).

SONG OF THE REDWOOD TREE

Farewell my brethren,
Farewell O earth and sky, farewell ye neighboring waters,
My time has ended, my term has come.

Along the northern coast,
Just back from the rock-bound shore and the caves,
In the saline air from the sea in the ... country,
With the surge for base and accompaniment low and hoarse,
With crackling blows of axes sounding musically driven by
strong arms,
Riven deep by the sharp tongues of the axes, there in the redwood
forest dense,
I heard the mighty tree its death-chant chanting.

The choppers heard not, the camp shanties echoed not,
The quick-ear'd teamsters and chain and jack-screw men
heard not,
As the wood-spirits came from their haunts of a thousand
years to join the refrain,
But in my soul I plainly heard.

Murmuring out of its myriad leaves,
Down from its lofty top rising two hundred feet high,
Out of its stalwart trunk and limbs, out of its foot-thick bark,
That chant of the seasons and time, chant not of the past only
but the future.

You untold life of me,
And all you venerable and innocent joys,
Perennial hardy life of me with joys 'mid rain and many a
summer sun,
And the white snows and night and the wild winds;
O the great patient rugged joys, my soul's strong joys unreck'd
by man,
(For know I bear the soul befitting me, I too have conscious-
ness, identity,
And all the rocks and mountains have, and all the earth,)
Joys of the life befitting me and brothers mine,
Our time, our term has come....

Walt Whitman, Leaves of Grass (New York: The New American Library, 1958), pp. 180-18.

EPILOGUE

"The creative genius of mankind is challenged in all its range to design a future, not only for survival, but for a kind of survival that has meaning. In its ultimate character this is not an operational but a philosophical problem. Behind the fact of life is the problem of its meaning. In the cold light of today's overwhelming mass of knowledge, whatever meaning life is to have must be the creation of man himself."

We have been looking at TREE, and reading about trees, but the emphasis has been upon man. Look back at the last page of the introduction, and then, study this Epilogue. Remember that "as man sees himself, so he acts toward the living things about him."

The problem is that man makes himself through his culture and through his own experiences. Man learns from his society and he makes decisions. Now that you have studied TREE you ought to be thinking about how you want to "make yourself."

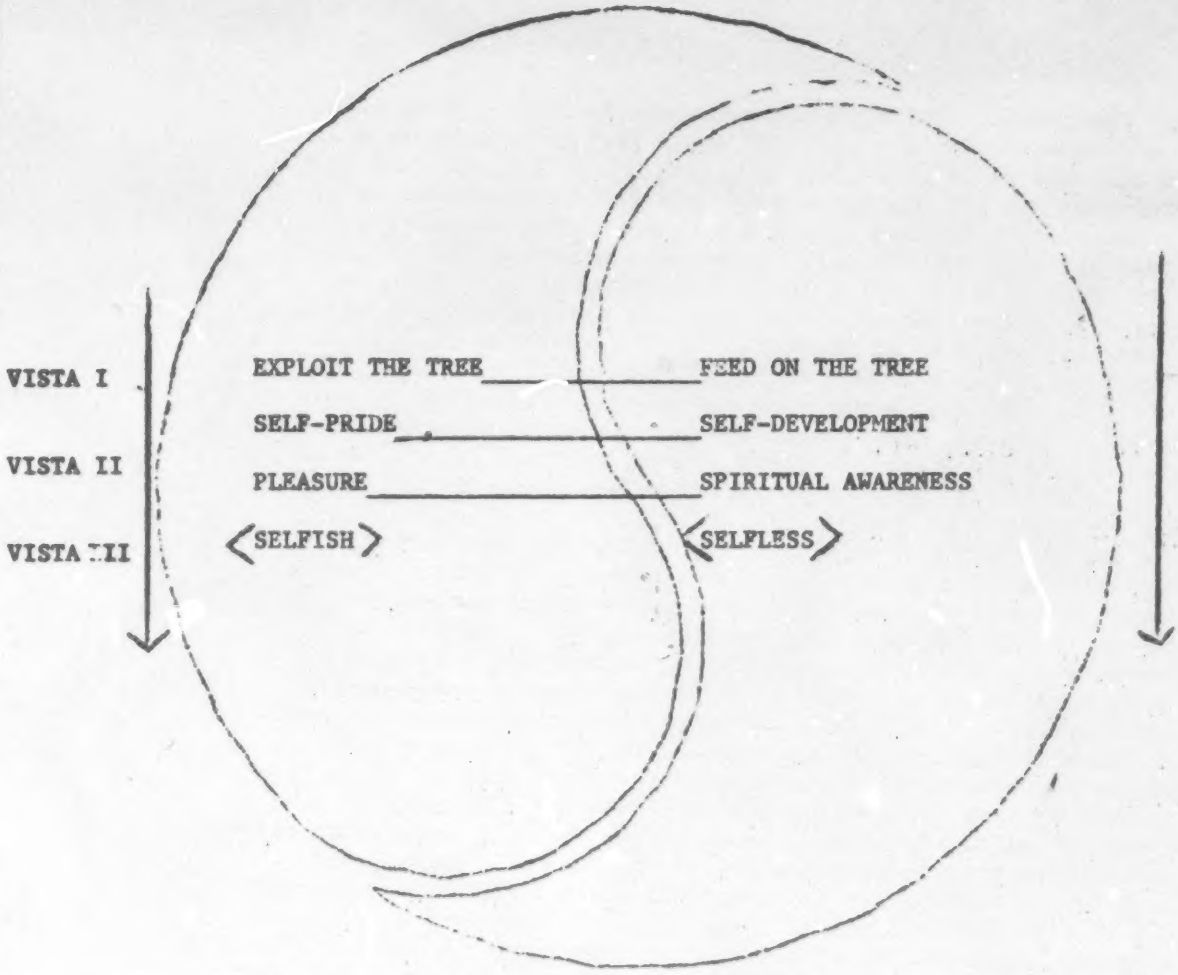
I CONSIDER A TREE

Martin Buber, I and Thou (New York: Charles Scribner's Sons, 1958), pp. 7-8. Second Edition.

Viktor E. Frankl, Man's Search For Meaning (New York: Simon and Schuster, Inc., 1959), pp. 68-69.

Albert Schweitzer, Reverence for Life (New York: The Philosophical Library, 1965), pp. 59-60.

SUMMARY



Master, dominate, explain, exploit; awe, wonder, understand, mystery. This booklet has offered you a set of perceptions of TREE. It has asked you to reflect upon your own conceptions of TREE and the implications for your actions in the natural world. The message is "If man violates nature, he violates himself."

The basic proposition is "As man sees himself, so he acts toward the living things about him." The correlary is "Man makes himself, through his culture and through his daily decisions which determine his experience and his habits." At this final point the question is: Do you want to change yourself -- your pereeptions, habits, etc.--which guide your actions and make you who and what you are?

Schools commonly test young people in their ability to store information, to analyze it into generalizations, and to adduce reasons for the adequacy of the generalizations. The human attitudes selected from among all human attitudes as guides to what is real are: respect for "hard" quantifiable data, analytic precision, and care in matching hypotheses with data. American schools select these attitudes for reenforcement. They neglect many other important human attitudes: personal experience, imagination, a criticism of the goals and values and purposes which form the context of every judgment and supply its criteria of relevance and evidence. How many examinations in one's school career test the depth and richness of one's personal experience, the range and flexibility of one's skill in criticizing values and goals?

Michael Novak, Ascent of the Mountain, Flight of the Dove (New York: Harper & Row, Publishers, 1971), p.96.

TEAR OUT SHEET

STUDENT ASSESSMENT OF TREE

1) Grade Level_____ Title of your Course_____

2) In general, I found this booklet to be: Very Interesting_____
Somewhat Interesting_____
About Average____
Somewhat Boring____
Very Boring____

3) In general, I found the readings: Very difficult____
Difficult____
Average____
Easy____
Very Easy____

4) What was the best feature of the Unit?

5) If you were selected to help the authors improve this unit, what suggestions would you like to make? (use back of sheet)

6) Would you say that this booklet has made a significant change in the way you "see" trees? Yes___ No___ Why?

7) Were you able to make any conclusions for yourself on how you should relate to a tree? Yes___ No___ If yes, what conclusions did you reach?

SEND TO:

Environmental Education Project
426 Hull Drive
The Florida State University
Tallahassee, Florida 32306

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